Clarion

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Closer Relations through
"Clarion Service Manual"

Service Manual

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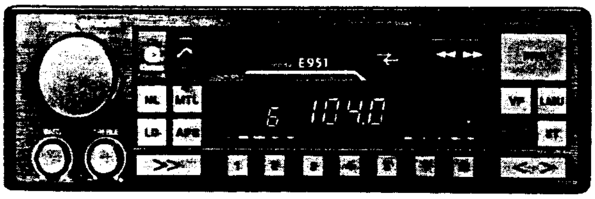
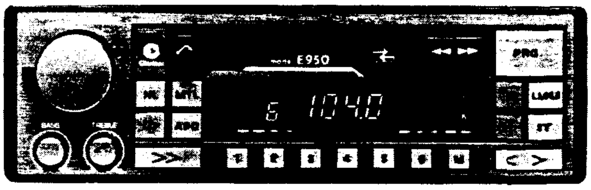
Clarion Canada Inc. 1401 Meyerside Dr. Mississauga, Ontario L5T IG8, Canada Tel: 416-678-1367 Telex: 216968573 CLARION MSGA
Clarion Shoji (U.K.) Ltd. 4-6, Faraday Road, Dorcan Industrial Estate, Dorcan, Swindon, Wiltshire. SN3.5HQ United Kingdom Tel: (0793) 24081 Telex: 44689

Model E951 (PE-9006A)
E950 (PE-9007A)



E951



E950

■SPECIFICATIONS:

Radio section

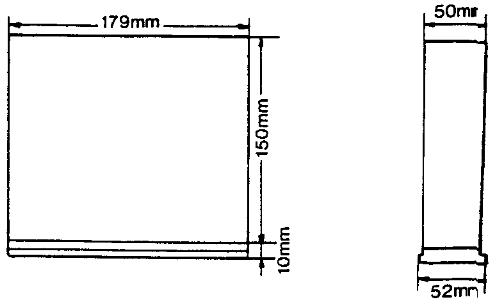
Circuit system:	Superheterodyne
Tuning system:	Electronic tuning
Receiving frequency:	LW 155kHz to 281kHz MW 531kHz to 1,602kHz UKW(FM) 87.5MHz to 108MHz
Intermediate frequency:	LW, MW 459kHz UKW(FM) 10.7MHz

Tape section

Reproduction system:	Auto reversing 4 track, 2 channel, 2 program stereo cassette tape playback (Monaural also capable)
Tape speed:	4.76cm/sec. (1⅞ ips)

Composite

Speaker impedance:	4Ω×2, 4Ω×4
Power output:	15W×2 (at 10% distortion TYP.) More than 22W×2 (at max. output TYP)
Power supply voltage:	DC 14.4V(10.8V to 15.6V) Negative ground
Power consumption:	Less than 7A (at max. output)
Semiconductors: (Not included Tuner pack)	1 LSI, 21 ICs, 48 Transistors and 47 Diodes (E951 1 LSI, 19 ICs, 38 Transistors and 43 Diodes (E950
Dimensions:	



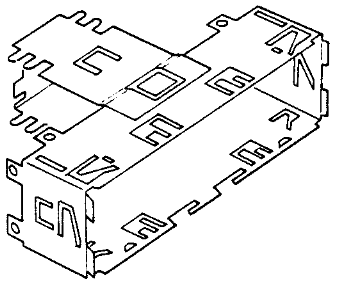
Weight:	1.8kg

COMPONENT VIEW:

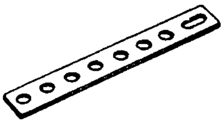
- E951(PE-9006A-A)
- E950(PE-9007A-A)

Main unit 1

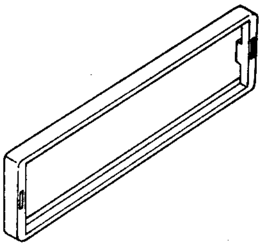
Mounting bracket 300-6692-00 1



Mounting bracket 300-4976-00 1

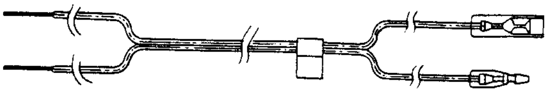


Parts bag 922-1247-00 1

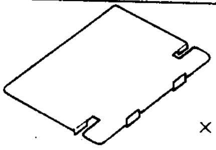


370-3562-00
Escutcheon

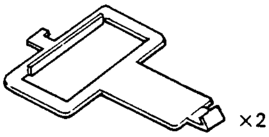
Extension lead
852-5216-02(RIGHT REAR) 1
-03(RIGHT FRONT) 1
-04(LEFT REAR) 1
-05(LEFT FRONT) 1



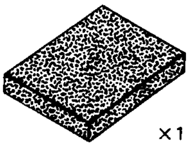
Parts bag 921-7554-00 1



×1
330-7672-00
Lock plate



×2
330-7673-00
Hook plate



×1
345-2934-00
Cushion

×1
345-3653-01
Spacer

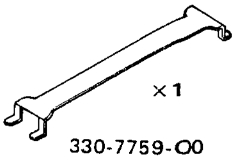
×1
820-0050-04
Vinyl tube

×1
725-0181-00
Plate nut

×1
700-5016-10
Tap screw

×1
740-5000-10
Flat washer

×1
722-0314-00
Nut



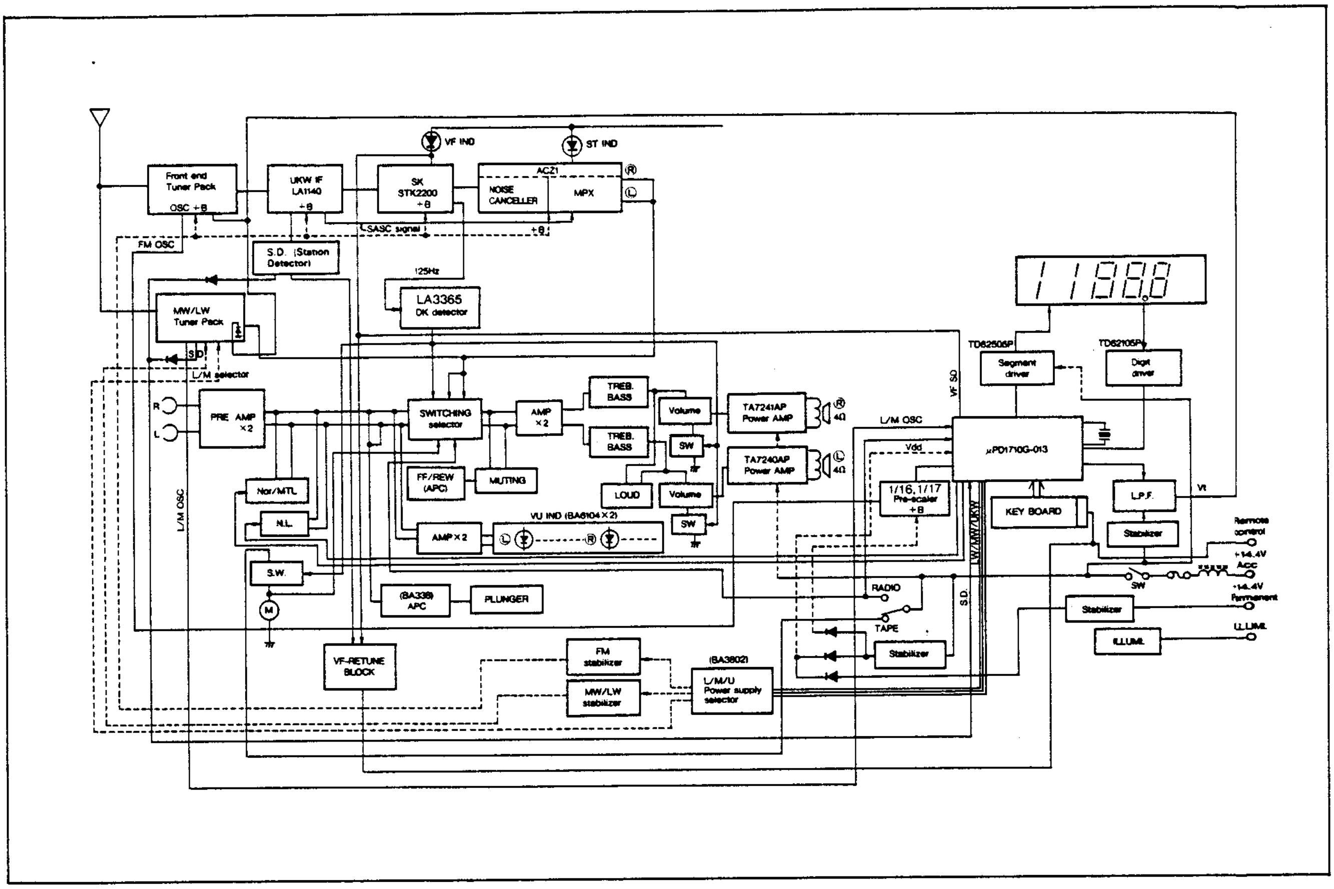
×1
330-7759-00
Hold plate

FEATURES:

- MW/LW/UKW(FM)-MPX electronic tuning radio with auto reverse stereo cassette player F.F., REW. lock).
- Provided radio traffic information (VF) system. E951)
- NL (Noise Limiter).
- MTL (tape selector).
- LD (Loudness).
- APC (Automatic Program Control).
- BASS & TREBLE tone control.
- Max. power 22W×2. (TYP.)
- ARK mechanism.

■BLOCK DIAGRAM:

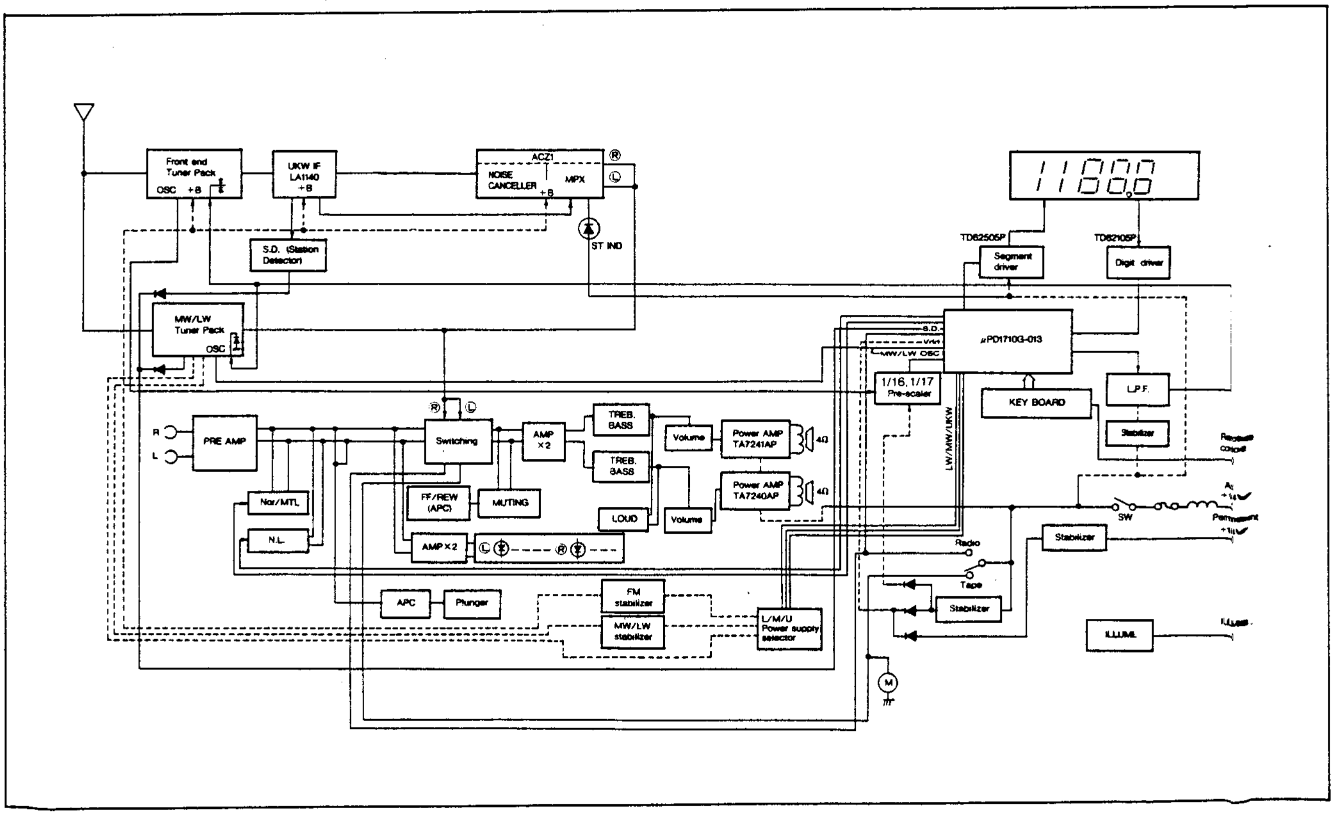
◎E951 (PE-9006A)



VF IND
ST IND
Front end
Tuner Pack
OSC +B
UKW IF
LA1140
+B
SK
STK2200
+B
ACZ1
NOISE CANCELLER
MPX
®
Ⓛ
SASC signal
+B
FM OSC
S.D. (Station Detector)
125Hz
LA3365
DK detector
MW/LW
Tuner Pack
S.D.
L/M selector
L/M OSC
R
L
PRE AMP ×2
SWITCHING selector
AMP ×2
TREB. BASS
TREB. BASS
Volume
SW
Volume
SW
LOUD
TA7241AP Power AMP
TA7240AP Power AMP
4Ω
4Ω
Nor/MTL
N.L.
FF/REW (APC)
MUTING
AMP × 2
VU IND (BA6104 × 2)
S.W.
M
(BA338) APC
PLUNGER
VF-RETUNE BLOCK
FM stabilizer
MW/LW stabilizer
(BA3802)
L/M/U Power supply selector
L/M OSC
Vdd
VF SD
1/16, 1/17 Pre-scaler +B
μPD1710G-013
TD62505P
Segment driver
TD62105P
Digit driver
KEY BOARD
L.P.F.
Vt
Stabilizer
Remote control
+14.4V
Acc
SW
+14.4V
Permanent
Stabilizer
ILLUMI.
ILLUMI.
RADIO
TAPE
S.D.
LW/MW/UKW
Stabilizer

■BLOCK DIAGRAM:

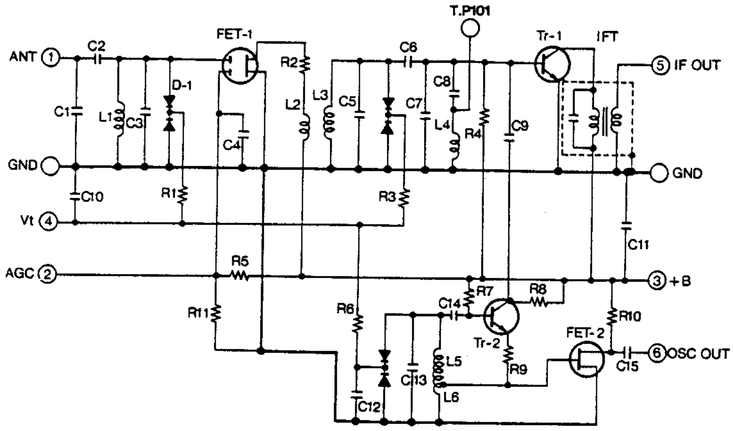
◎E950 (PE-9007A)



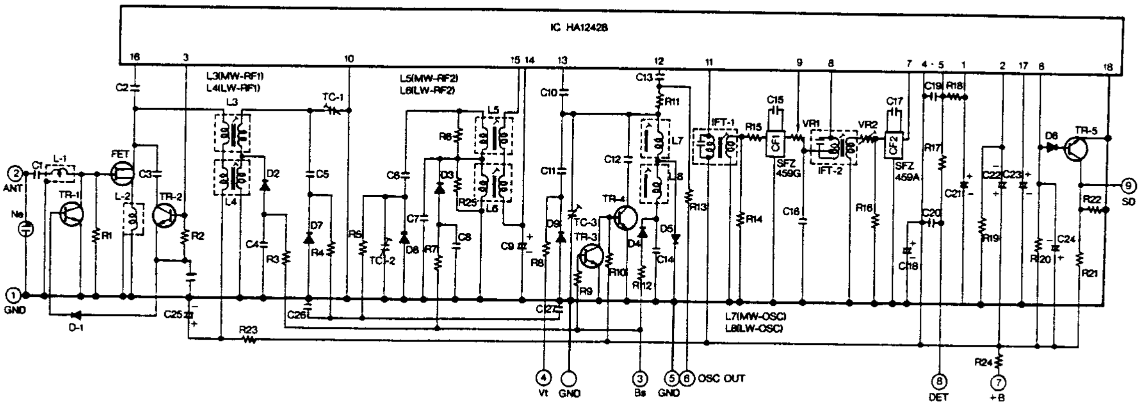
Front end
Tuner Pack
OSC +B
UKW IF
LA1140
+B
ACZ1
NOISE CANCELLER
MPX
+B
®
Ⓛ
ST IND
S.D. (Station Detector)
MW/LW
Tuner Pack
OSC
R
L
PRE AMP
Switching
® Ⓛ
AMP ×2
TREB. BASS
TREB. BASS
Volume
Volume
LOUD
Power AMP TA7241AP
Power AMP TA7240AP
4Ω
4Ω
Nor/MTL
N.L.
FF/REW (APC)
MUTING
AMP × 2
APC
Plunger
FM stabilizer
MW/LW stabilizer
L/M/U Power supply selector
M
TD62505P
Segment driver
TD62105P
Digit driver
μPD1710G-013
S.D.
Vdd
MW/LW OSC
1/16, 1/17 Pre-scaler
LW/MW/UKW
KEY BOARD
L.P.F.
Stabilizer
SW
Permanent
Stabilizer
Radio
Tape
Stabilizer
ILLUMI.

■TUNER PACK CIRCUIT:

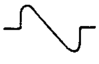
◎UKW(FM) circuit


T.P101
ANT ①
C2
FET-1
R2
C6
Tr-1
IFT
⑤ IF OUT
D-1
C8
C1
L1
C3
C4
L2
L3
C5
C7
L4
R4
C9
GND
GND
C10
R1
R3
Vt ④
C11
AGC ②
R5
③ +B
R7
R8
C14
R11
R6
R10
Tr-2
FET-2
⑥OSC OUT
L5
R9
C15
C13
C12
L6

◎MW/LW circuit


IC HA12428
16
3
10
15 14
13
12
11
9
8
7
4 · 5
1
2
17
6
18
C2
L3(MW-RF1)
L4(LW-RF1)
L5(MW-RF2)
L6(LW-RF2)
C10
C13
R11
C19
R18
TC-1
L3
L5
C15
C17
R6
IFT-1
R15
CF1
VR1
VR2
CF2
D6
TR-5
L7
C1
L-1
FET
C3
C12
SFZ 459G
IFT-2
SFZ 459A
R17
② ANT
D2
C5
C6
D3
C11
L8
Ne
TR-1
L-2
TR-2
L4
R25
L6
TR-4
C16
R16
C22
C23
C21
⑨ SD
R22
R13
R14
C20
R1
R2
D7
C7
C9
D9
TC-3
D5
R19
C4
R3
R4
R5
TC-2
D8
R7
C8
R8
TR-3
D4
C14
C18
R20
C24
R21
R9
R10
R12
① GND
C25
C26
C27
D-1
R23
L7(MW-OSC)
L8(LW-OSC)
R24
④ Vt
GND
③ Bs
⑤ GND
⑥ OSC OUT
⑧ DET
⑦ +B

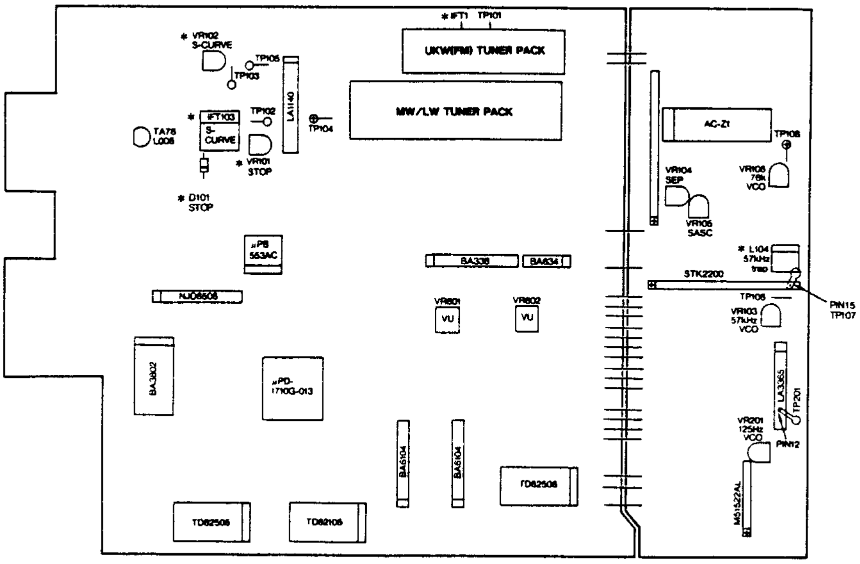
■ADJUSTMENT:

Adjustment item	Adjustment point	Procedure
S curve	IFT1 and IFT103	1. Connect the output of an IF sweep generator to TP101 and the input of the vertical hold of an oscilloscope to TP104. 2. Ground TP105. 3. Adjust the S curve by means of IFT1 and IFT103. 
S curve fine adjustment	VR102	1. Tune at 87.5MHz (87.500Hz) and input a 28dB non-modulated SSG signal. 2. Connect a digital volt meter between TP102 and TP103. 3. Adjust VR102 so that the voltage between TP102 and TP103 is 0V. 4. May adjust 0V by receiving weak broadcasting signal.
Stop seek sensitivity	VR101	1. Tune at 87.5MHz (87.500Hz), input a 28dB non-modulated SSG signal. 2. Adjust VR101 so that the voltage of the cathode of D101 is in the range 1 to 4V.
SASC	VR105	1. Tune at 87.5MHz (87.500Hz), input an 55dB, 7kHz modulation frequency, 30% modulation degree SSG signal, and then turn on ST. SW. 2. Adjust the output level of the volume controller to 0dBm (0.775V). 3. Set the SSG output to 38dB and adjust VR105 so that the output level is −3dBm.
MPX 1. VCO	VR106	1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal, and then turn on ST. SW. 2. Connect a frequency counter to TP108 through a 100kΩ resistor and adjust VR106 so that the counter indicates 76kHz.
2. Separation	VR104	1. Tune at 87.5MHz (87.500Hz), connect the output of a stereo modulator to the external modulation terminal, and input a 65dB SSG signal. 2. Set the stereo modulator to the L or R ch and adjust VR104 so that the maximum separation is obtained.
SK 1. VCO	VR103	1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal. 2. Connect the frequency counter to TP106 and adjust VR103 so that the counter indicates 57kHz.
2. 57kHz trap (E951)	L104	1. Tune at 87.5MHz (87.500Hz), connect the output of the stereo modulator to the external modulation terminal, and then input a 55dB SSG signal. 2. Turn on SK. SW. of stereo modulator. 3. Adjust L104 so that the wave-form of pin 15 (TP107) of STK2200 is maximized.
DK VCO (E951)	VR201	1. Tune at 87.5MHz (87.500Hz), input a 55dB non-modulated SSG signal, and turn on VF. SW. 2. Connect the frequency counter to TP201 through a 22kΩ resistor and adjust VR201 so that the counter indicates 125Hz. In the case, 25sec later, seeking occurs.
VU level	VR601 VR602	1. Reproduce the 315Hz −10VU tape. 2. Adjust VR601 and VR602 so that only first one of 5 points of the VU level indicator lights up.

[NOTE] After the adjustment of frequency range, be sure that;
(1) Band edge frequency of LW shall be 148.5kHz −20kHz
(2) Band edge frequency of UKW shall be 87.5MHz +100kHz −160kHz at low end. And shall be lower than 108.16MHz at upper end.

- SPECIFICATION −LIMIT− Quieting sensitivity: MW Less than 33dB(at 20dB S/N)
LW Less than 39dB(at 20dB S/N)
UKW Less than 12dB(at 30dB S/N)
Stereo separation: UKW More than 20dB

●ADJUSTMENT POINT



* IFT1
TP101
UKW(FM) TUNER PACK
MW/LW TUNER PACK
* VR102 S-CURVE
TP105
TP103
LA1140
* IFT103 S-CURVE
TP102
TP104
TA78 L008
* VR101 STOP
* D101 STOP
μPB 553AC
NJD8608
BA3802
μPD-1710G-013
BA338
BA634
VR601
VU
VR602
VU
BA6104
BA6104
TD62506
TD62506
TD62106
AC-Z1
TP108
VR104 SEP
VR106 76k VCO
VR105 SASC
* L104 57kHz trap
STK2200
TP106
VR103 57kHz VCO
PIN15 TP107
LA3365
TP201
VR201 125Hz VCO
PIN12
M51522AL

(NOTE) The part marked "*" should be adjusted from parts side, and the other adjustment should be done from P.W.B. pattern side.

■ADJUSTMENT:

<TAPE MECHANISM>

1. AZIMUTH ADJUSTMENT

Play the 6.3kHz, −10VU section of the AZIMUTH tape and adjust the head azimuth adjustment screw (716-0429-00) so that the output levels are maximized in both tape running directions. (Figure 1)

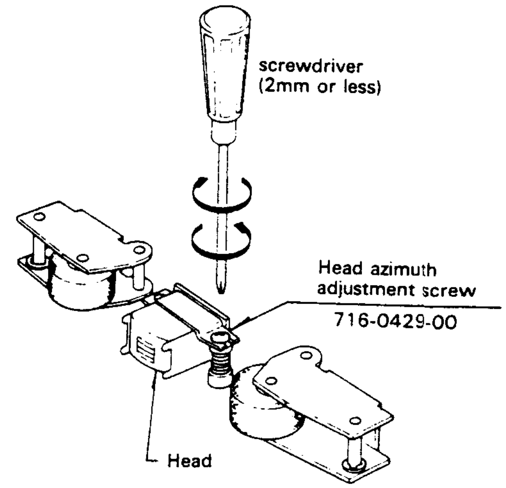
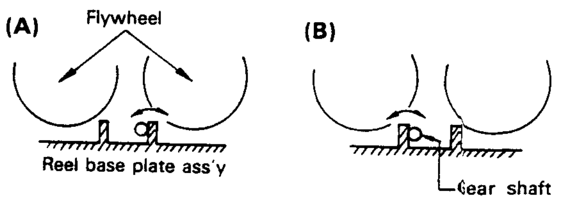

screwdriver
(2mm or less)
Head azimuth
adjustment screw
716-0429-00
Head

Fig. 1

2. FF/REW GEAR ENGAGEMENT ADJUSTMENT

If any abnormal sound is heard during FF/REW operation, adjust gear engagement as follows.

First identify the gear causing the abnormal sound. Then, adjust projection of the reel base plate ass'y by bending it in an appropriate direction as shown in Fig. 2; (A) when the FF gear causes abnormal sound; (B) when the REW gear causes abnormal sound.


(A)
Flywheel
(B)
Reel base plate ass'y
Gear shaft

Viewed from the bottom

Fig. 2

3. IDLER GEAR ENGAGEMENT ADJUSTMENT

If any abnormal sound is heard during PLAY operation, adjust gear engagement as follows.

First identify the gear causing the abnormal sound. Then, adjust projection of the roller plate A ass'y by bending it in an appropriate direction as shown in Fig. 3; (A) when the FWD gear causes abnormal sound; (B) when the REV gear causes abnormal sound.

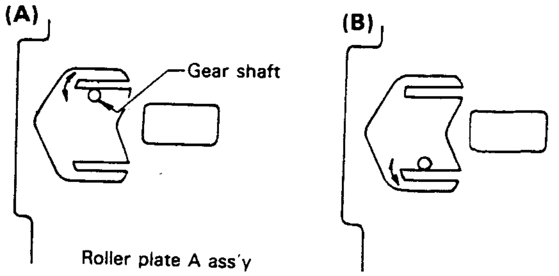

(A)
(B)
Gear shaft
Roller plate A ass'y

Fig. 3

4. LEAF SWITCH POSITION ADJUSTMENT

When replacing the leaf switch, first remove P.W.B from the mechanism, remove the solder on the leaf switch, adjust the position of the leaf switch from the P.W.B switch position adjustment hole, and then solder the switch. (Figure 4)

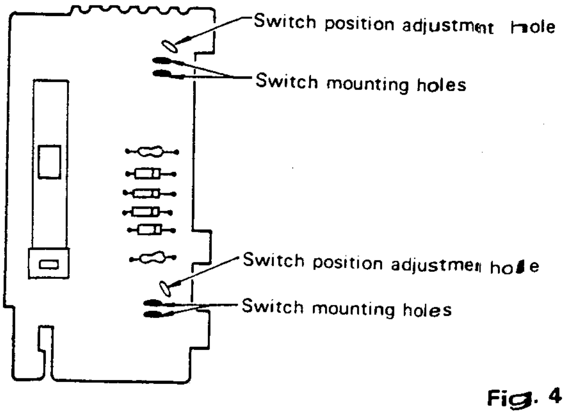
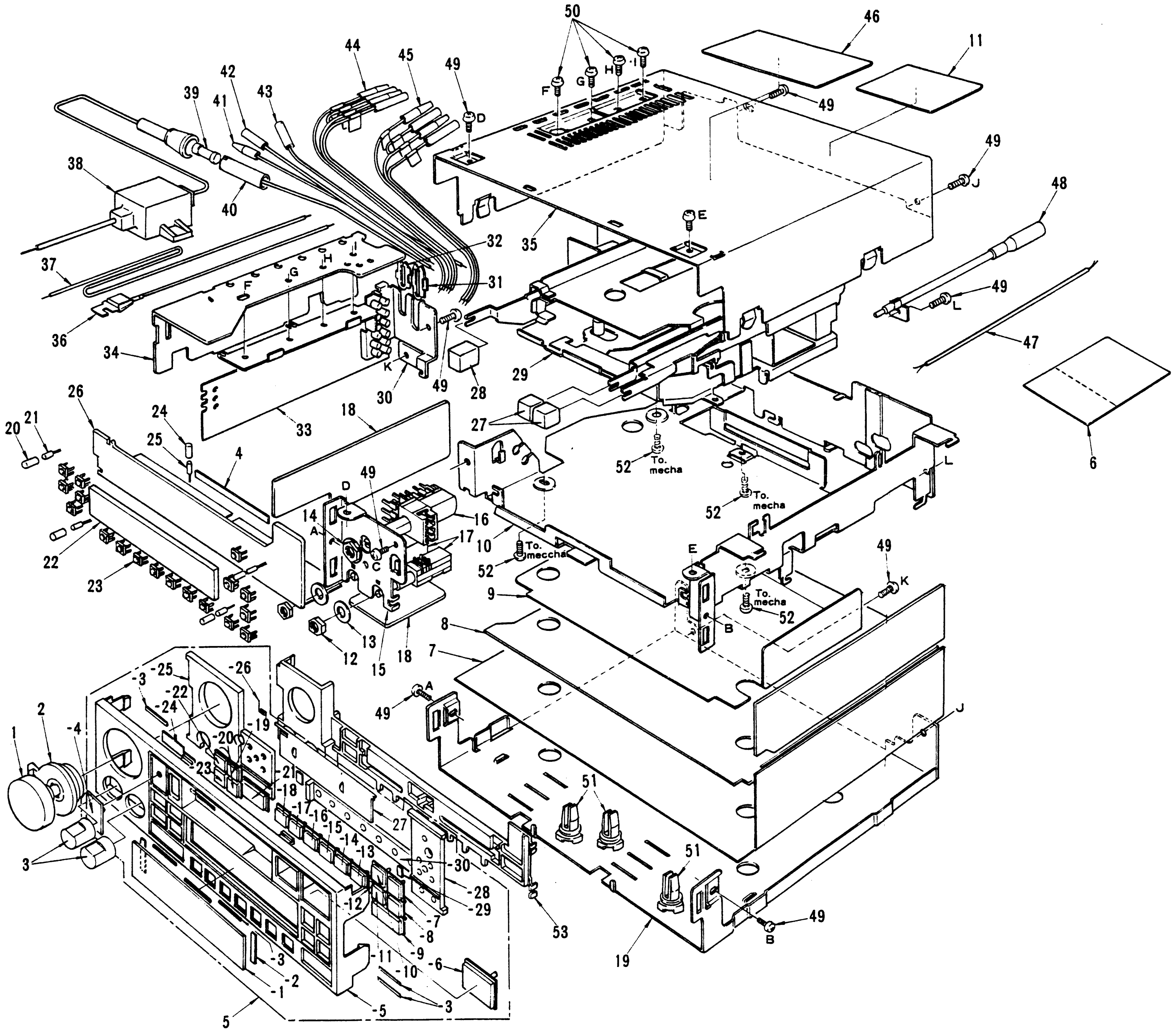

Switch position adjustment hole
Switch mounting holes
Switch position adjustment hole
Switch mounting holes

Fig. 4

●SPECIFICATION −LIMIT− Wow and flutter: Less than 0.25%(W.R.M.S)

■EXPLODED VIEW • PARTS LIST:

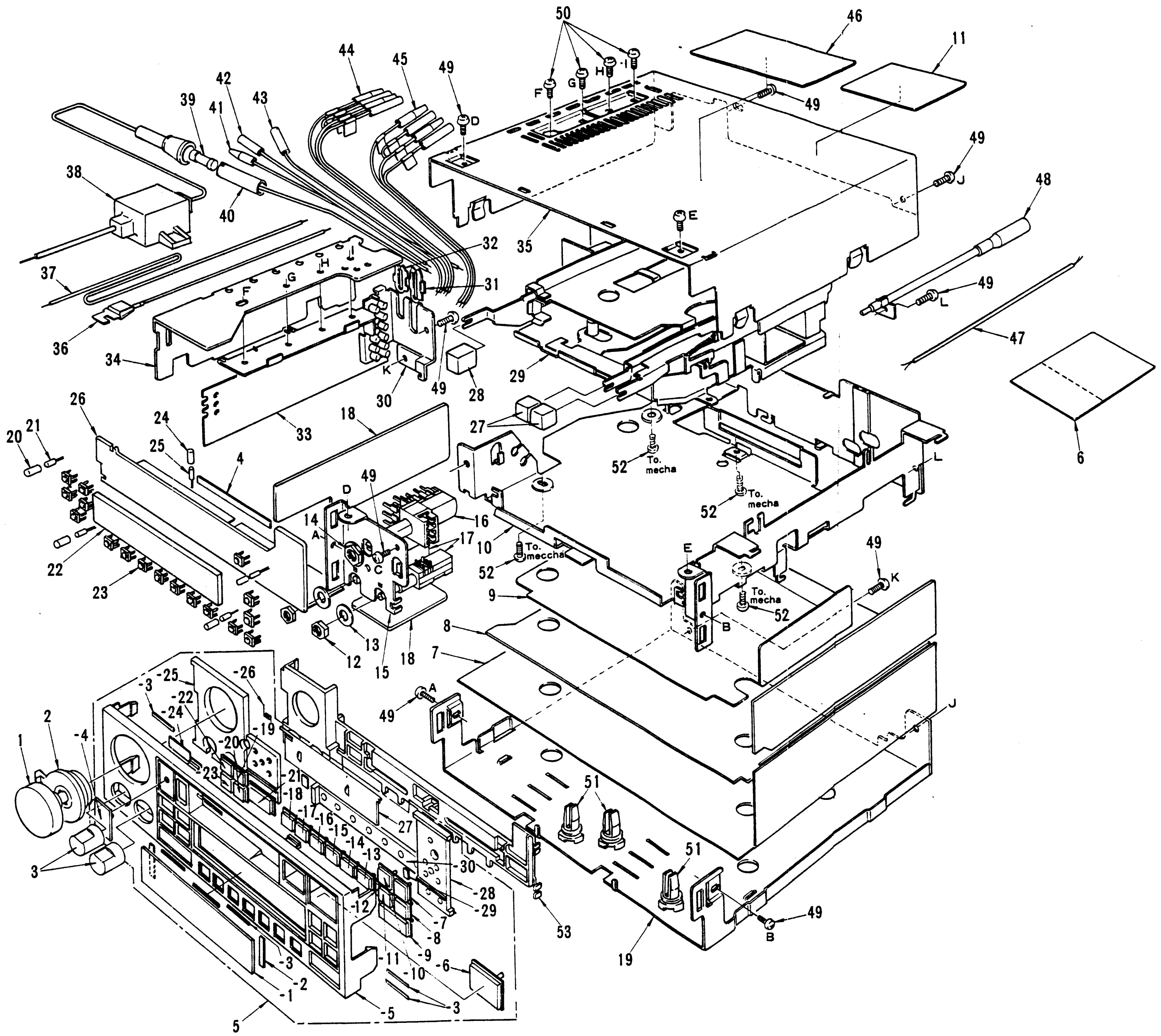
◎Main section　E951 (PE-9006A)



REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	380-4293-01	Knob (VOL)	1
2	380-4295-00	Knob (FAD)	1
3	380-4294-01	Knob (BASS, TREB)	2
4	347-0607-00	Insulator	1
5	940-2688-02	Escutcheon ass'y	1
5-1	373-0364-04	Dial cover	1
5-2	347-0645-00	Adhesive paper	2
5-3	347-0815-00	Adhesive paper	6
5-4	378-0088-00	Badge	1
5-5	370-3561-04	Escutcheon	1
5-6	382-0508-00	Button (PRO)	1
5-7	382-0509-03	Button (L/M/U)	1
5-8	382-0509-00	Button (ST)	1
5-9	382-0511-00	Button (‹ ›)	1
5-10	382-0509-01	Button (VF)	1
5-11	382-0507-00	Dummy button	1
5-12	382-0510-00	Button (M)	1
5-13	382-0510-06	Button (6)	1
5-14	382-0510-05	Button (5)	1
5-15	382-0510-04	Button (4)	1
5-16	382-0510-03	Button (3)	1
5-17	382-0510-02	Button (2)	1
5-18	382-0510-01	Button (1)	1
5-19	382-0509-07	Button (MTL)	1
5-20	382-0509-06	Button (APC)	1
5-21	382-0511-01	Button (› ›)	1
5-22	382-0509-05	Button (NL)	1
5-23	382-0509-02	Button (LD)	1
5-24	347-0872-00	Adhesive paper	1
5-25	371-3078-01	Trim plate	1
5-26	750-2309-01	Spring	1
5-27	320-0326-15	Dustproof cover	1
5-28	371-3077-01	Trim plate	1
5-29	347-0772-00	Adhesive paper	2
5-30	371-3079-01	Trim plate	1
6	285-1096-00	Guide label	1
7	347-1244-00	Insulator	1
8	099-6808-00	P.W.B	1
9	347-1217-01	Insulator	1
10	312-0231-01	Chassis	1
11	286-5060-00	Set plate	1
12	722-0332-00	Hex-nut	2
13	745-0560-00	Flat washer	2
14	722-0417-00	Nut	1
15	330-7674-01	VR bracket	1
16	012-4068-00	Variable resistor (VOL)	1
17	012-4070-00	Variable resistor (BASS, TREB)	2
18	099-6811-00	P.W.B	1
19	304-0357-01	Lower cover	1
20	345-3619-00	P.L cap	4
21	017-0338-06	Pilot lamp	4
22	379-0051-05	Indicator	1
23	013-3694-00	Switch	18
24	345-2830-07	P.L cap	1
25	017-0345-14	Pilot lamp	1
26	099-6814-00	P.W.B	1
27	382-0506-01	Button (◀◀)	2
28	382-0505-01	Button (↶)	1
29	930-0514-01	Tape mechanism	1
30	944-0650-00	Filter ass'y	1
31	335-0818-00	Lead holder	1
32	335-0580-00	Lead holder	1
33	347-1218-01	Insulator	1
34	313-1163-01	Heat sink	1
35	310-1125-01	Upper case	1
36	840-0386-00	Bonding wire	1
37	850-2110-01	A-lead	1
38	009-0626-06	Choke	1
39	120-0070-00	Fuse (7A)	1
40	850-2005-00	A-lead	1
41	850-1580-01	A-lead	1
42	852-5322-02	Extension lead	1
43	852-6652-01	Extension lead	1
44	851-2442-02	Speaker lead (Gray	1
45	851-2443-03	Speaker lead (Whi)	1
46	285-0915-00	Guide label	1
47	815-2061-00	Head lead wire	1
48	092-0522-06	Antenna receptacle	1
49	731-3006-80	Tap tight (M3x6)	10
50	714-3010-81	Machine screw (M3x10)	4
51	335-1603-00	Bush	3
52	714-3003-81	Machine screw (M3x3)	4
53	374-0833-02	Back plate	1

■EXPLODED VIEW • PARTS LIST:

◎Main section E950 (PE-9007A)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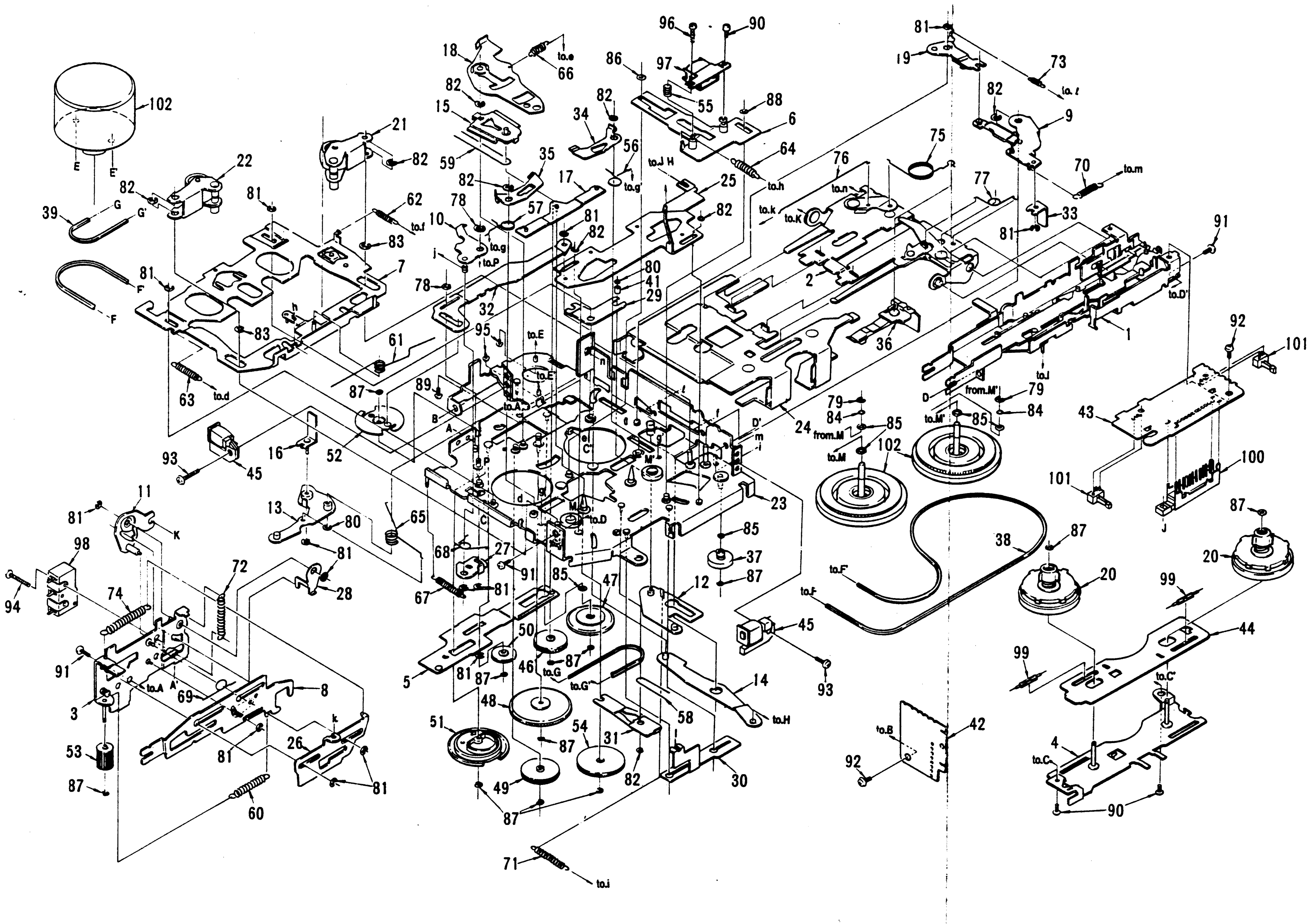
5

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	380-4293-01	Knob (VOL)	1
2	380-4295-00	Knob (FAD)	1
3	380-4294-01	Knob (BASS, TREB)	2
4	347-0607-00	Insulator	1
5	940-2688-03	Escutcheon ass'y	1
5-1	373-0364-04	Dial cover	1
5-2	347-0645-00	Adhesive paper	2
5-3	347-0815-00	Adhesive paper	6
5-4	378-0088-00	Badge	1
5-5	370-3561-04	Escutcheon	1
5-6	382-0508-00	Button (PRO)	1
5-7	382-0509-03	Button (L/M/U)	1
5-8	382-0509-00	Button (ST)	1
5-9	382-0511-00	Button (< >)	1
5-10	382-0507-00	Dummy button	1
5-11	382-0507-00	Dummy button	1
5-12	382-0510-00	Button (M)	1
5-13	382-0510-06	Button (6)	1
5-14	382-0510-05	Button (5)	1
5-15	382-0510-04	Button (4)	1
5-16	382-0510-03	Button (3)	1
5-17	382-0510-02	Button (2)	1
5-18	382-0510-01	Button (1)	1
5-19	382-0509-07	Button (MTL)	1
5-20	382-0509-06	Button (APC)	1
5-21	382-0511-01	Button (> >)	1
5-22	382-0509-05	Button (NL)	1
5-23	382-0509-02	Button (LD)	1
5-24	347-0872-00	Adhesive paper	1
5-25	371-3078-01	Trim plate	1
5-26	750-2309-01	Spring	1
5-27	320-0326-16	Dustproof cover	1
5-28	371-3077-01	Trim plate	1
5-29	347-0772-00	Adhesive paper	2
5-30	371-3079-01	Trim plate	1
6	285-1096-00	Guide label	1
7	347-1244-00	Insulator	1
8	099-6808-00	P.W.B	1
9	347-1217-01	Insulator	1
10	312-0231-01	Chassis	1
11	286-5061-00	Set plate	1
12	722-0332-00	Hex-nut	2
13	745-0560-00	Flat washer	2
14	722-0417-00	Nut	1
15	330-7674-01	VR bracket	1
16	012-4068-00	Variable resistor (VOL)	1
17	012-4070-00	Variable resistor (BASS, TREB)	2
18	099-6811-00	P.W.B	1
19	304-0357-01	Lower cover	1
20	345-3619-00	P.L cap	4
21	017-0338-06	Pilot lamp	4
22	379-0051-05	Indicator	1
23	013-3694-00	Switch	17
24	345-2830-07	P.L cap	1
25	017-0345-14	Pilot lamp	1
26	099-6814-00	P.W.B	1
27	382-0506-01	Button (◀◀)	2
28	382-0505-01	Button (⏏)	1
29	930-0514-00	Tape mechanism	1
30	944-0650-00	Filter ass'y	1
31	335-0818-00	Lead holder	1
32	335-0580-00	Lead holder	1
33	347-1218-01	Insulator	1
34	313-1163-01	Heat sink	1
35	310-1125-01	Upper case	1
36	840-0386-00	Bonding wire	1
37	850-2110-01	A-lead	1
38	009-0626-06	Choke	1
39	120-0070-00	Fuse (7A)	1
40	850-2005-00	A-lead	1
41	850-1580-01	A-lead	1
42	852-5322-02	Extension lead	1
43	852-6652-01	Extension lead	1
44	851-2442-02	Speaker lead (Gray)	1
45	851-2443-03	Speaker lead (White)	1
46	285-0915-00	Guide label	1
47	815-2061-00	Head lead wire	1
48	092-0522-06	Antenna receptacle	1
49	731-3006-80	Tap tight (M3x6)	10
50	714-3010-81	Machine screw (M3x10)	4
51	335-1603-00	Bush	3
52	714-3003-81	Machine screw (M3x3)	4
53	374-0833-01	Back plate	1

■EXPLODED VIEW · PARTS LIST:

◎Tape mechanism section



102
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E
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G'
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F
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to.d
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11
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K
98
94
74
72
91
to.A
A'
69
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87
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k
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to.f
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to.P
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to.E
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to.e
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to.g'
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to.h
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to.ℓ
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to.n
to.k
to.K'
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70
to.m
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91
to.D'
92
101
D'
24
from.M
to.M
79
84
85
to.M'
85
79
84
102
from.M'
to.J
43
100
101
87
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38
87
20
99
44
99
to.C'
to.F
to.F
45
93
23
85
37
87
12
65
68
27
91
85
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67
81
50
46
87
to.G
to.G'
5
81
87
48
51
54
87
31
82
49
87
58
14
to.H
30
71
to.i
42
to.B
92
4
to.C
90

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
1	960-3475-01	Frame sub ass'y	1
2	960-3476-02	Guide arm ass'y	1
3	960-3477-01	Side panel ass'y	1
4	960-3479-01	Reel base-P ass'y	1
5	960-3480-03	Power-P ass'y	1
6	960-3481-01	Head plate ass'y	1
7	960-3482-02	Roller-P-A ass'y	1
8	960-3483-03	E-lever ass'y	1
9	960-3484-00	Plunger-P ass'y	1
10	960-3487-02	C-gear-L-P ass'y	1
11	960-3488-02	Eject link ass'y	1
12	960-3490-02	P-sub-P ass'y	1
13	960-3492-02	Cam-G-L-P ass'y	1
14	960-3493-02	Change arm ass'y	1
15	960-3494-02	Idler-P ass'y	1

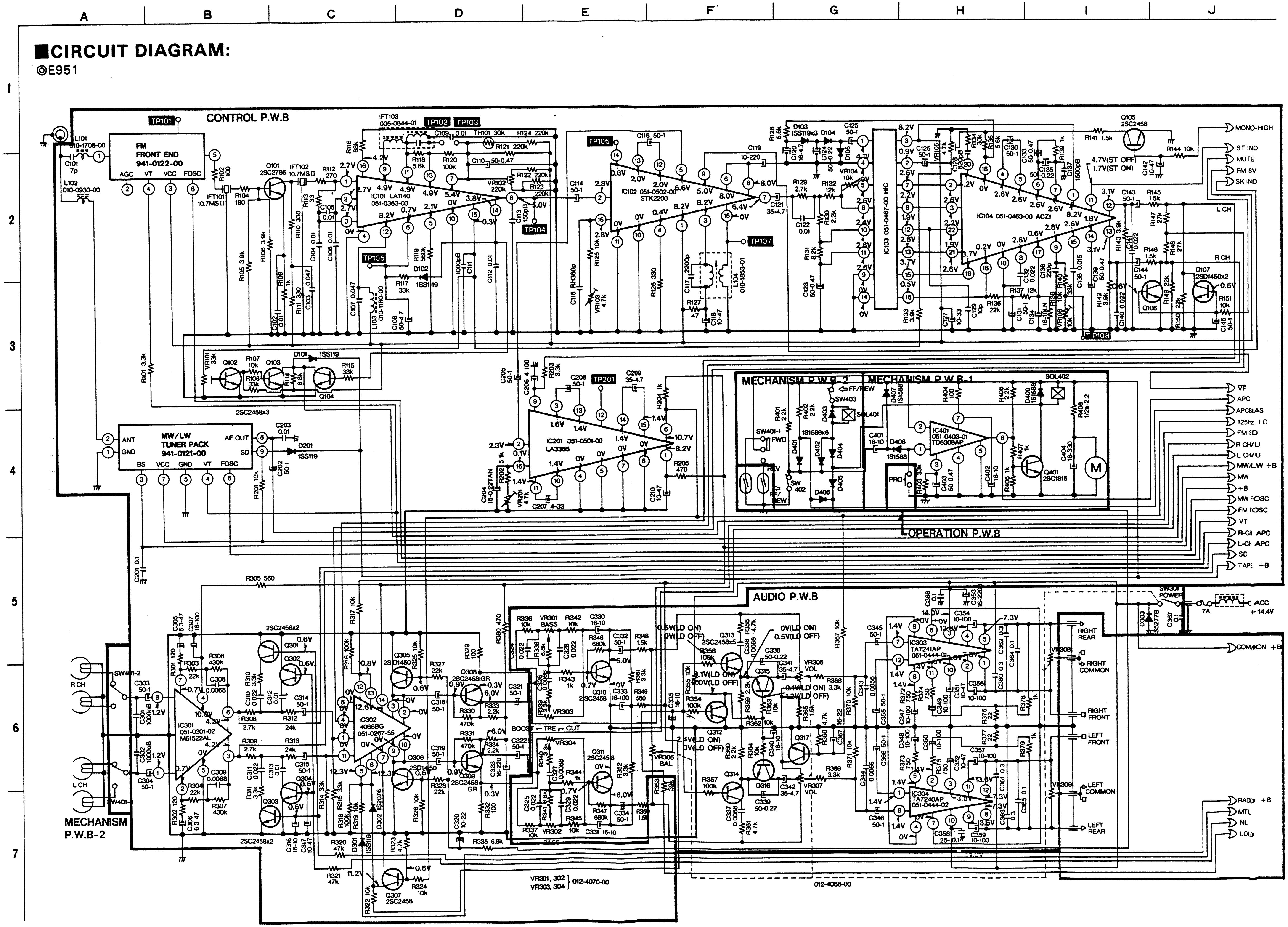
REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
16	960-3495-00	H-piece-B ass'y	1
17	960-3496-01	FF gear-P ass'y	1
18	960-3497-01	H-P-lock-P ass'y	1
19	960-3498-01	Hold plate ass'y	1
20	960-3499-01	Reel base ass'y	2
21	960-3500-01	Roller-F ass'y	1
22	960-3501-01	Roller-R ass'y	1
23	960-3504-02	Deck plate ass'y	1
24	606-0077-03	Pack guide	1
25	630-1576-01	Change plate	1
26	630-1579-00	Eject plate	1
27	960-3561-00	Timing plate ass'y	1
28	630-1581-01	Switch plate	1
29	630-1582-01	Power line	1
30	630-1583-00	FF plate	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
31	630-1584-01	FF gear arm	1
32	630-1585-00	Idler-C-plate	1
33	630-1586-00	Holding piece A	1
34	630-1587-00	Brake plate-F	1
35	630-1588-00	Brake plate-R	1
36	631-0412-02	Pack stopper	1
37	631-0370-01	Tension pulley	1
38	602-0079-00	Belt	1
39	602-0080-00	Belt	1
40	960-3532-00	Motor ass'y	1
41	610-0242-00	P-roller	1
42	099-6794-00 099-6704-01	P.W.B E951 E950	1
43	099-6703-01	P.W.B	1
44	099-6702-01	P.W.B	1
45	015-0232-00	Plunger	2

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
46	613-0044-01	Idler gear	1
47	613-0045-00	Pulley gear	1
48	613-0046-01	Gear A	1
49	613-0047-01	Gear B	1
50	613-0048-01	Gear C	1
51	613-0049-03	Cam gear	1
52	613-0050-02	Channel-C-gear	1
53	613-0051-00	Gear	1
54	613-0052-01	FF gear	1
55	750-1910-00	Azimuth spring	1
56	750-2278-02	Brake-F-spring	1
57	750-2279-02	Brake-R-spring	1
58	750-2281-01	FF-U-spring	1
59	750-2282-03	Idler-U-spring	1
60	750-2283-00	EJ-lever spring	1
61	750-2284-00	P-roller spring	1
62	750-2286-00	Roll-P-A-spring	1
63	750-2287-00	Roll-P-B-spring	1
64	750-2288-00	Head-P-spring	1
65	750-2291-01	Cam-G-spring	1
66	750-2292-00	Head-L-spring	1
67	750-2293-00	Change-G-spring	1
68	750-2294-01	Timing-P-spring	1
69	750-2295-01	Hook arm spring	1
70	750-2296-00	Plunger-P-spring	1
71	750-2297-01	P-sub spring	1
72	750-2298-00	E-link spring	1
73	750-2299-00	P-lock spring	1
74	750-2300-02	E-plate spring	1
75	750-2301-03	Slot in spring	1
76	750-2302-00	Rod spring	1
77	750-2320-00	E-lock spring	1
78	744-0018-01	E-ring	2
79	744-0022-00	E-ring	2
80	743-1200-10	E-ring	2
81	743-1500-10	E-ring	13
82	743-2000-10	E-ring	10
83	743-2500-10	E-ring	2
84	745-0645-00	Washer	2
85	746-0617-00	Washer	6
86	746-0622-01	Washer	1
87	746-0628-01	Washer	12
88	746-0717-01	Washer	1
89	732-2604-11	Sems screw (M2.6x4)	1
90	714-2003-81	Machine screw (M2x3)	3
91	714-2603-81	Machine screw (M2.6x3)	3
92	714-2604-81	Machine screw (M2.6x4)	2
93	714-2606-11	Machine screw (M2.6x6)	2
94	714-2308-81	Machine screw (M2.3x8)	1
95	716-0347-00	Screw	2
96	716-0429-00	Screw	1
97	011-0285-00	Head	1
98	013-3580-00	Switch	1
99	013-3601-00	Switch	2
100	013-3666-00	Switch	1
101	013-3687-00	Switch	2
102	611-0067-00	Fly wheel	2

■CIRCUIT DIAGRAM:

◎E951



A
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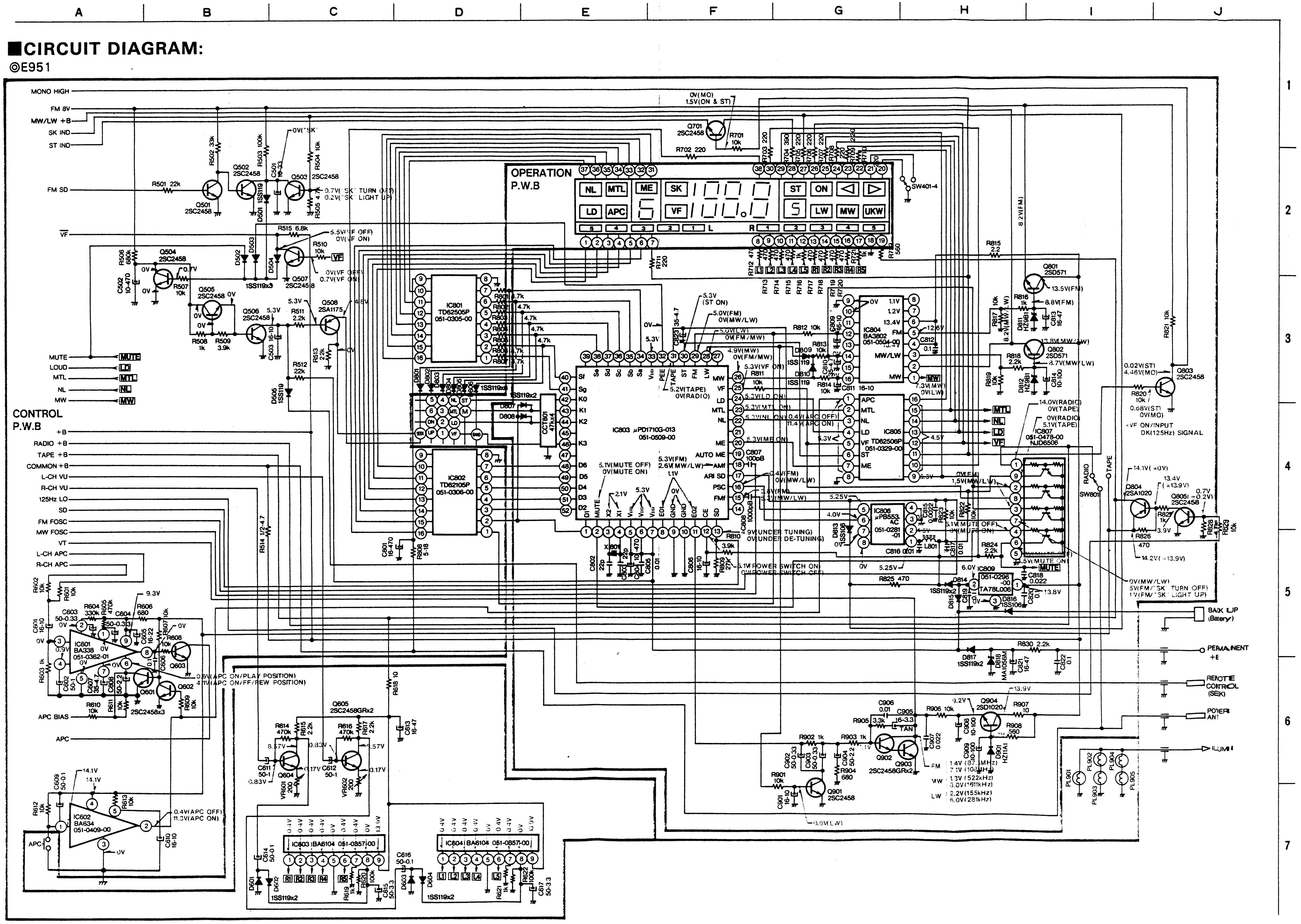
CONTROL P.W.B
TP101
TP102
TP103
TP104
TP105
TP106
TP107
TP108
TP201
FM FRONT END 941-0122-00
AGC
VT
VCC
FOSC
L101 010-1708-00
L102 010-0930-00
C101 7p
IFT101 10.7MS II
IFT102 10.7MS II
IFT103 005-0844-01
Q101 2SC2786
IC101 LA1140 051-0363-00
IC102 051-0502-00 STK2200
IC103 051-0467-00 HIC
IC104 051-0463-00 ACZ1
Q105 2SC2458
Q106
Q107 2SD1450x2
TH101 30k
D102 1SS119
D103 1SS119x3
D104
D105
L103 010-1180-00
L104 010-1853-01
VR101 33k
VR102 220k
VR103 4.7k
VR104 10k
VR105
Q102
Q103
Q104
2SC2458x3
D101 1SS119
4.7V(ST OFF)
1.7V(ST ON)
MONO-HIGH
ST IND
MUTE
FM 8V
SK IND
L CH
R CH
MW/LW TUNER PACK 941-0121-00
ANT
GND
BS
VCC
GND
VT
FOSC
AF OUT
SD
D201 1SS119
IC201 051-0501-00 LA3365
VR201 4.7k
MECHANISM P.W.B-2
MECHANISM P.W.B-1
FF/REW
SW403
SOL401
SOL402
SW401-1
FWD
REV
SW 402
REW
1S1588x6
D401
D402
D403
D404
D405
D406
D407 1S1588
D408 1S1588
D409 1S1588
IC401 051-0403-01 TD6308AP
Q401 2SC1815
M
PRO
OPERATION P.W.B
VF
APC
APCBIAS
125Hz LO
FM SD
R CH/U
L CH/U
MW/LW +B
MW
+B
MW FOSC
FM FOSC
VT
R-CH APC
L-CH APC
SD
TAPE +B
AUDIO P.W.B
SW301 POWER
7A
ACC
+14.4V
D303 S5277B
COMMON +B
R CH
L CH
SW401-2
SW401-3
MECHANISM P.W.B-2
IC301 051-0301-02 M51522AL
2SC2458x2
Q301
Q302
Q303
IC302 4066BG 051-0267-55
Q305 2SD1450
Q306 2SD1450
Q307 2SC2458
Q308 2SC2458 GR
Q309 2SC2458 GR
D301 1SS119
D302 1S2076
VR301 BASS
VR302
VR303
VR304
BOOST ← TRE → CUT
Q310 2SC2458
Q311 2SC2458
Q312
Q313 2SC2458x5
Q314
Q315
Q316
Q317
0.5V(LD ON)
0V(LD OFF)
VR305 BAL
VR306 VOL
VR307 VOL
VR308
VR309
IC303 TA7241AP 051-0444-01
IC304 TA7240AP 051-0444-02
RIGHT REAR
RIGHT COMMON
RIGHT FRONT
LEFT FRONT
LEFT COMMON
LEFT REAR
VR301, 302
VR303, 304 } 012-4070-00
012-4068-00
RADIO +B
MTL
NL
LOUD

■CIRCUIT DIAGRAM:

©E951



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MONO HIGH
FM 8V
MW/LW +B
SK IND
ST IND
FM SD
VF
MUTE
LOUD
MTL
NL
MW
CONTROL
P.W.B
+B
RADIO +B
TAPE +B
COMMON +B
L-CH VU
R-CH VU
125Hz LO
SD
FM FOSC
MW FOSC
VT
L-CH APC
R-CH APC
APC BIAS
APC
OPERATION
P.W.B
NL
MTL
ME
SK
ST
ON
LD
APC
VF
LW
MW
UKW
L
R
Q501 2SC2458
Q502 2SC2458
Q503 2SC2458
Q504 2SC2458
Q505 2SC2458
Q506 2SC2458
Q507 2SC2458
Q508 2SA1175
R501 22k
R502 33k
R503 100k
R504 10k
R505 4.7k
R506 680k
R507 10k
R508 1k
R509 3.9k
R510 10k
R511 2.2k
R512 22k
R513 22k
R514 1/2-4.7
R515 6.8k
C501 10-33
C502 10-470
C503 16-10
D501 1SS119
D502
D503
D504
1SS119x3
D505 1SS119
0V(SK)
0.7V(SK TURN OFF)
0.2V(SK LIGHT UP)
5.5V(VF OFF)
0V(VF ON)
0V(VF OFF)
0.7V(VF ON)
IC801 TD62505P 051-0305-00
IC802 TD62105P 051-0306-00
R801–R807 4.7k
R808 5-18
C801 16-470
D801
D802
D803
D804
D805
D806
1SS119x6
1SS119x2
D807
D808
CCT801 47kx4
IC803 μPD1710G-013 051-0509-00
Sf
Se
Sd
Sc
Sb
Sa
PEE
TAPE
ST
FM
LW
Sg
K0
K1
K2
K3
D6
D5
D4
D3
D2
D1
MUTE
X2
X1
GND
E01
E02
CE
SD
AMf
AUTO ME
ARI SD
PSC
FMf
5.3V(ST ON)
5.0V(FM)
0V(MW/LW)
5.0V(LW)
0V(FM/MW)
4.9V(MW)
0V(FM/MW)
5.3V(VF ON)
5.2V(TAPE)
0V(RADIO)
5.3V(LD ON)
5.3V(MTL ON)
5.3V(NL ON)
0.4V(APC OFF)
11.4V(APC ON)
5.3V(ME ON)
5.1V(MUTE OFF)
0V(MUTE ON)
5.3V(FM)
2.6V(MW/LW)
0.4V(FM)
0V(MW/LW)
5.4V(FM)
5.3V(MW/LW)
4.9V(UNDER TUNING)
0V(UNDER DE-TUNING)
5.1V(POWER SWITCH ON)
0V(POWER SWITCH OFF)
C807 100pB
C808 1000pB
C802 22p
C803
C804
C805
C806 16-10
X801
R809 27k
R810 3.9k
R811 10k
R812 10k
R813 10k
R814 10k
D809 1SS119
D810 1SS119
C810
C811 16-10
C823 35-4.7
Q701 2SC2458
R701 10k
R702 220
R703 220
R704 390
R705 220
R706 220
R707 220
R708 220
R709
R710 220
R711 220
R712 470
R713
R714
R715
R716
R717
R718
R719
R720
R721
R722 560
0V(MO)
1.5V(ON & ST)
SW401-4
L1
L2
L3
L4
L5
R1
R2
R3
R4
R5
IC804 BA3802 051-0504-00
MW/LW
FM
IC805 TD62506P 051-0329-00
APC
MTL
NL
LD
VF
ST
ME
IC806 μPB553AC 051-0281-01
IC807 051-0478-00 NJD6506
IC809 051-0296-00 TA78L006
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Q802 2SD571
Q803 2SC2458
Q804 2SA1020
Q805 2SC2458
13.5V(FM)
8.8V(FM)
8.2V(FM)
13.8V(MW/LW)
8.7V(MW/LW)
7.3V(MW)
0V(LW)
14.0V(RADIO)
0V(TAPE)
0V(RADIO)
5.1V(TAPE)
0.02V(ST)
4.46V(MO)
0.68V(ST)
0V(MO)
VF ON/INPUT
DK(125Hz) SIGNAL
14.1V(*0V)
13.4V
(*13.9V)
0.7V
(*0.2V)
14.2V(*13.9V)
0V(MW/LW)
5V(FM/SK TURN OFF)
1V(FM/SK LIGHT UP)
1.5V(MW/LW)
0V(FM)
5.1V(MUTE OFF)
0V(MUTE ON)
5.5V(MUTE ON)
5.25V
6.0V
13.8V
R815 2.2
R816 1k
R817 10k
R818 2.2k
R819 10k
R820 10k
R821 10k
R822
R823
R824 2.2k
R825 470
R826 470
R827 1k
R828
R829 10k
R830 2.2k
D811 HZ9B1
D812 HZ9B1
D813 1SS106
D814
D815 1SS119x2
D816 1SS106
D817 1SS119x2
D818 MA1056M
C812 0.1
C813 16-47
C814 10-100
C815 0.022
C816 0.01
C817 0.01
C818 0.022
C819
C820
C821 16-47
C822 0.1
L801
RADIO
TAPE
SW801
BACK UP
(Battery)
PERMANENT
+B
REMOTE
CONTROL
(SEEK)
POWER
ANT
ILUMI
Q901 2SC2458
Q902
Q903
2SC2458GRx2
Q904 2SD1020
R901 10k
R902 1k
R903 1k
R904 680
R905 3.3k
R906 10k
R907 10
R908 560
C901 16-10
C902 50-0.33
C903 50-0.33
C904 50-2.2
C905 16-3.3 TAN
C906 0.01
C907 0.022
C908 10-100
C909 10-100
D901 HZ11A1
9.2V
13.9V
FM
MW
LW
1.4V(87.5MHz)
7.1V(108MHz)
1.3V(522kHz)
8.0V(1611kHz)
2.2V(155kHz)
6.0V(281kHz)
0.6V(LW)
PL901
PL902
PL903
PL904
PL905
IC601 BA338 051-0362-01
Q601
Q602
Q603
2SC2458x3
R601 10k
R602 10k
R603 1k
R604 330k
R605 470k
R606 680
R607 10k
R608 10k
R609 10k
R610 10k
R611
C601 16-10
C602 50-1
C603 50-0.33
C604 50-0.33
C605 16-22
C606 0.1
C607 35-4.7
C608 50-2.2
9.3V
0.9V
0.6V(APC ON/PLAY POSITION)
4.1V(APC ON/FF/REW POSITION)
IC602 BA634 051-0409-00
R612 10k
R613 10k
C609 50-0.1
C610 16-10
14.1V
0.4V(APC OFF)
11.3V(APC ON)
Q604
Q605 2SC2458GRx2
R614 470k
R615 2.2k
R616 470k
R617 2.2k
R618 10
R619 1k
R620
R621 1k
R622 100k
VR601 200
VR602 200
C611 50-1
C612 50-1
C613 16-47
C614 50-0.1
C615 50-3.3
C616 50-0.1
C617 50-3.3
8.57V
0.83V
0.17V
IC603 BA6104 051-0857-00
IC604 BA6104 051-0857-00
D601
D602
D603
D604
1SS119x2
13.9V

■PRINTED WIRING BOARD:

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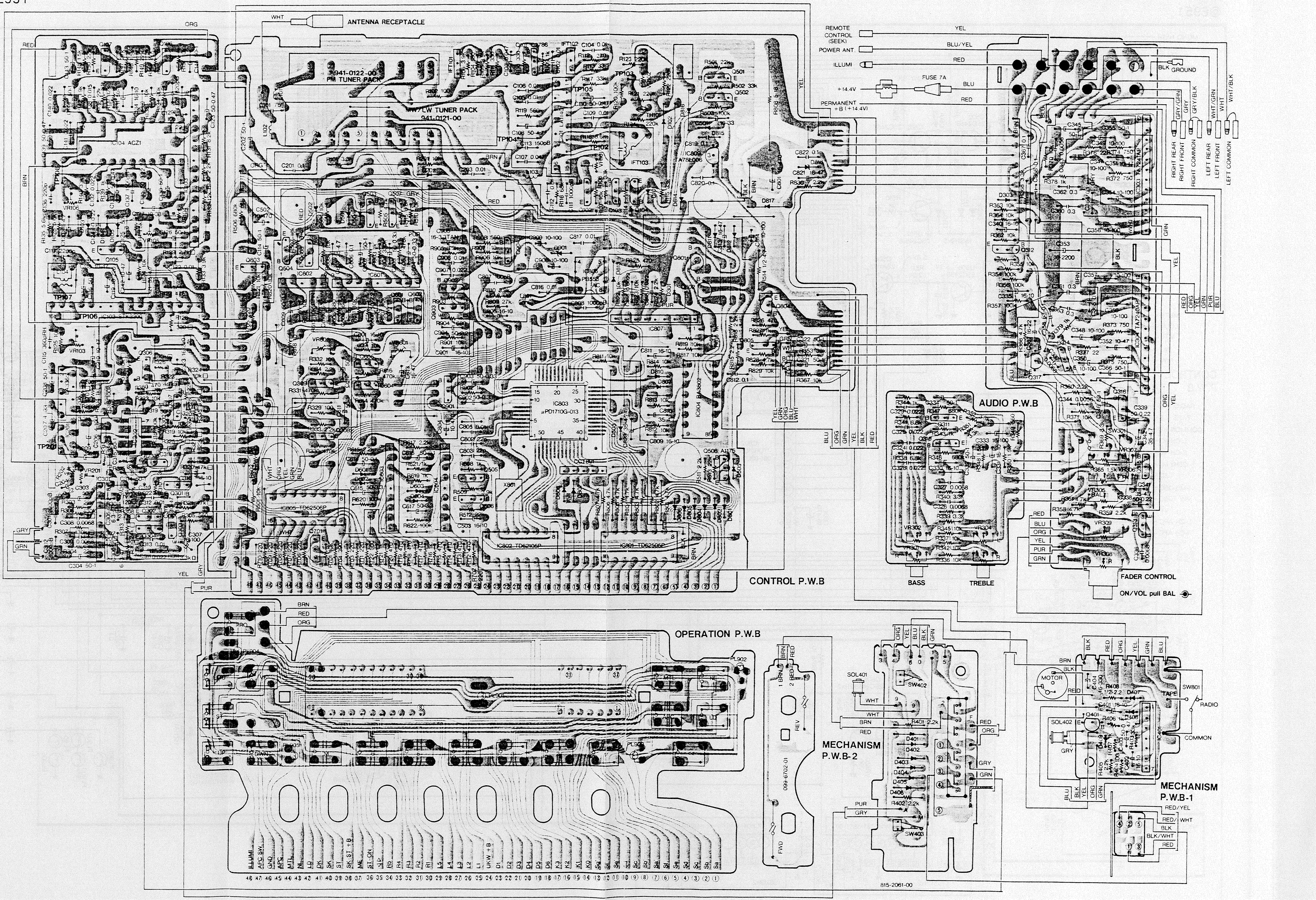
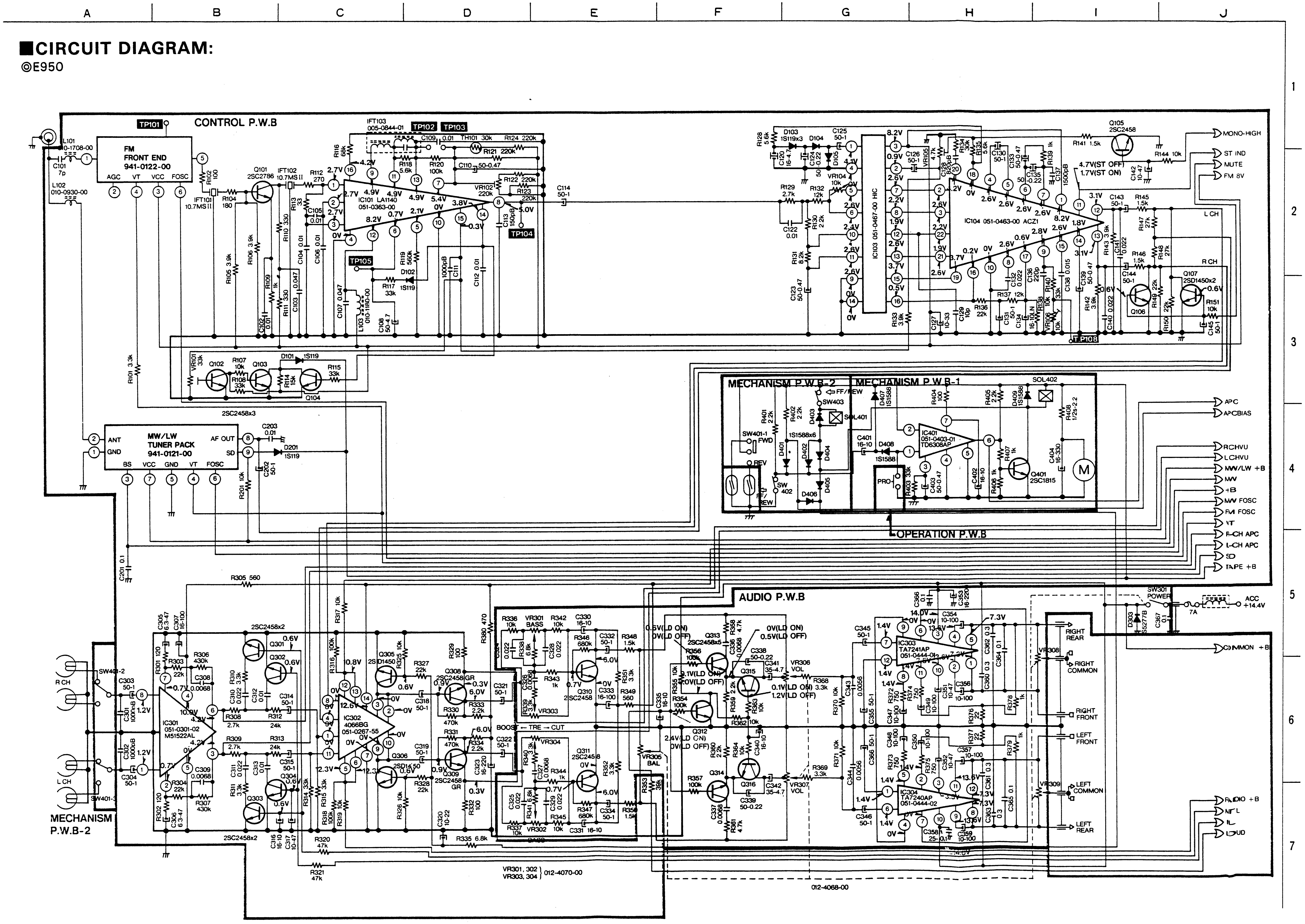

ANTENNA RECEPTACLE
WHT
ORG
RED
BRN
941-0122-00
FM TUNER PACK
MW/LW TUNER PACK
941-0121-00
REMOTE CONTROL (SEEK)
POWER ANT.
ILLUMI
+14.4V
PERMANENT +B (+14.4V)
FUSE 7A
YEL
BLU/YEL
BLU
BLK
GROUND
GRY/GRN
GRY
GRY/BLK
WHT/GRN
WHT
WHT/BLK
RIGHT REAR
RIGHT FRONT
RIGHT COMMON
LEFT REAR
LEFT FRONT
LEFT COMMON
IC803
μPD1710G-013
IC805 TD62506P
IC802 TD62106P
IC801 TD62505P
CONTROL P.W.B
AUDIO P.W.B
BASS
TREBLE
FADER CONTROL
ON/VOL pull BAL
OPERATION P.W.B
MECHANISM P.W.B-2
MECHANISM P.W.B-1
SOL401
SOL402
MOTOR
SW402
SW403
SW801
TAPE
RADIO
COMMON
REV
FWD
099-6702-01
815-2061-00
RED/YEL
RED/WHT
BLK/WHT
PUR
GRN

■CIRCUIT DIAGRAM:

◎E950


CONTROL P.W.B
FM FRONT END 941-0122-00
MW/LW TUNER PACK 941-0121-00
IC101 LA1140 051-0363-00
IC103 051-0467-00 HIC
IC104 051-0463-00 ACZ1
TP101
TP102
TP103
TP104
TP105
TP108
MECHANISM P.W.B-2
MECHANISM P.W.B-1
IC401 051-0403-01 TD6308AP
OPERATION P.W.B
AUDIO P.W.B
IC301 051-0301-02 M51522AL
IC302 4066BG 051-0267-55
IC303 TA7241AP 051-0444-01
IC304 TA7240AP 051-0444-02
BOOST ← TRE → CUT
VR301 BASS
VR305 BAL
VR306 VOL
VR307 VOL
VR301, 302 VR303, 304 } 012-4070-00
012-4068-00
SW301 POWER
ACC +14.4V
7A
MONO-HIGH
ST IND
MUTE
FM 8V
L CH
R CH
APC
APCBIAS
RCHVU
LCHVU
MW/LW +B
MW
+B
MW FOSC
FM FOSC
VT
R-CH APC
L-CH APC
SD
TAPE +B
COMMON +B
RIGHT REAR
RIGHT COMMON
RIGHT FRONT
LEFT FRONT
LEFT COMMON
LEFT REAR
RADIO +B
MTL
IL
LOUD
MECHANISM P.W.B-2
4.7V(ST OFF)
1.7V(ST ON)

■CIRCUIT DIAGRAM:

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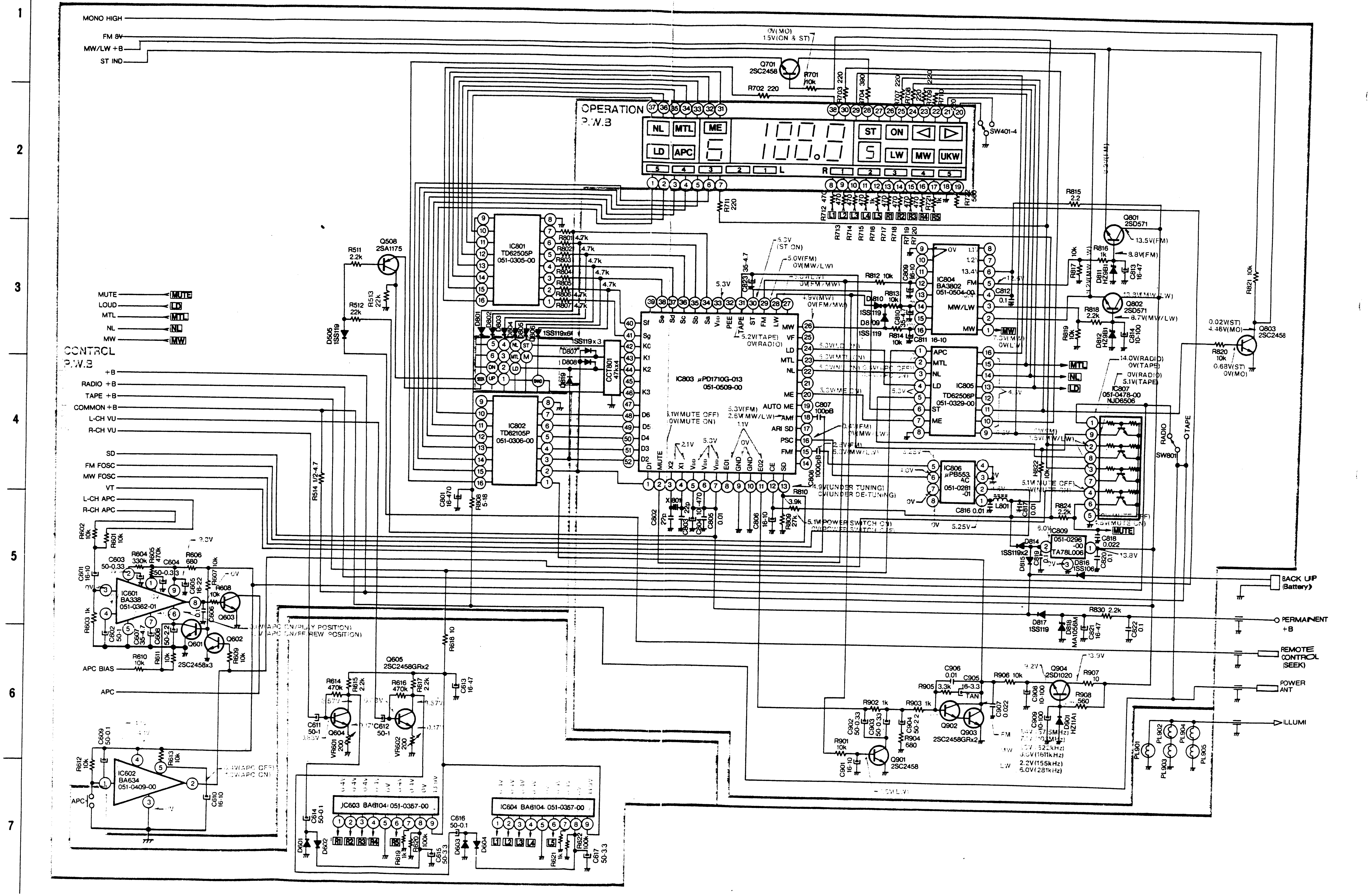
MONO HIGH
FM 8V
MW/LW +B
ST IND
OPERATION P.W.B
NL
MTL
ME
LD
APC
ST
ON
LW
MW
UKW
SW401-4
Q701 2SC2458
R701 10k
R702 220
CONTROL P.W.B
MUTE
LOUD
MTL
NL
MW
+B
RADIO +B
TAPE +B
COMMON +B
L-CH VU
R-CH VU
SD
FM FOSC
MW FOSC
VT
L-CH APC
R-CH APC
APC BIAS
APC
Q508 2SA1175
R511 2.2k
R512 22k
R513 22k
D505 1SS119
IC801 TD62505P 051-0305-00
IC802 TD62105P 051-0306-00
CCT801 47kx4
1SS119x6
1SS119x3
IC803 μPD1710G-013 051-0509-00
X801
IC804 BA3802 051-0504-00
IC805 TD62506P 051-0329-00
IC806 μPB553AC 051-0281-01
IC807 051-0478-00 NJD6506
IC809 051-0296-00 TA78L006
Q801 2SD571
Q802 2SD571
Q803 2SC2458
SW801
RADIO
TAPE
IC601 BA338 051-0362-01
Q601 Q602 Q603 2SC2458x3
IC602 BA634 051-0409-00
Q605 2SC2458GRx2
Q604
VR601 200
VR602 200
IC603 BA6104 051-0357-00
IC604 BA6104 051-0357-00
D817 1SS119
D818 MA1056M
R830 2.2k
BACK UP (Battery)
PERMANENT +B
REMOTE CONTROL (SEEK)
POWER ANT
ILLUMI
Q901 2SC2458
Q902 Q903 2SC2458GRx2
Q904 2SD1020
D901 HZ11A
PL901
PL902
PL903
PL904
PL905

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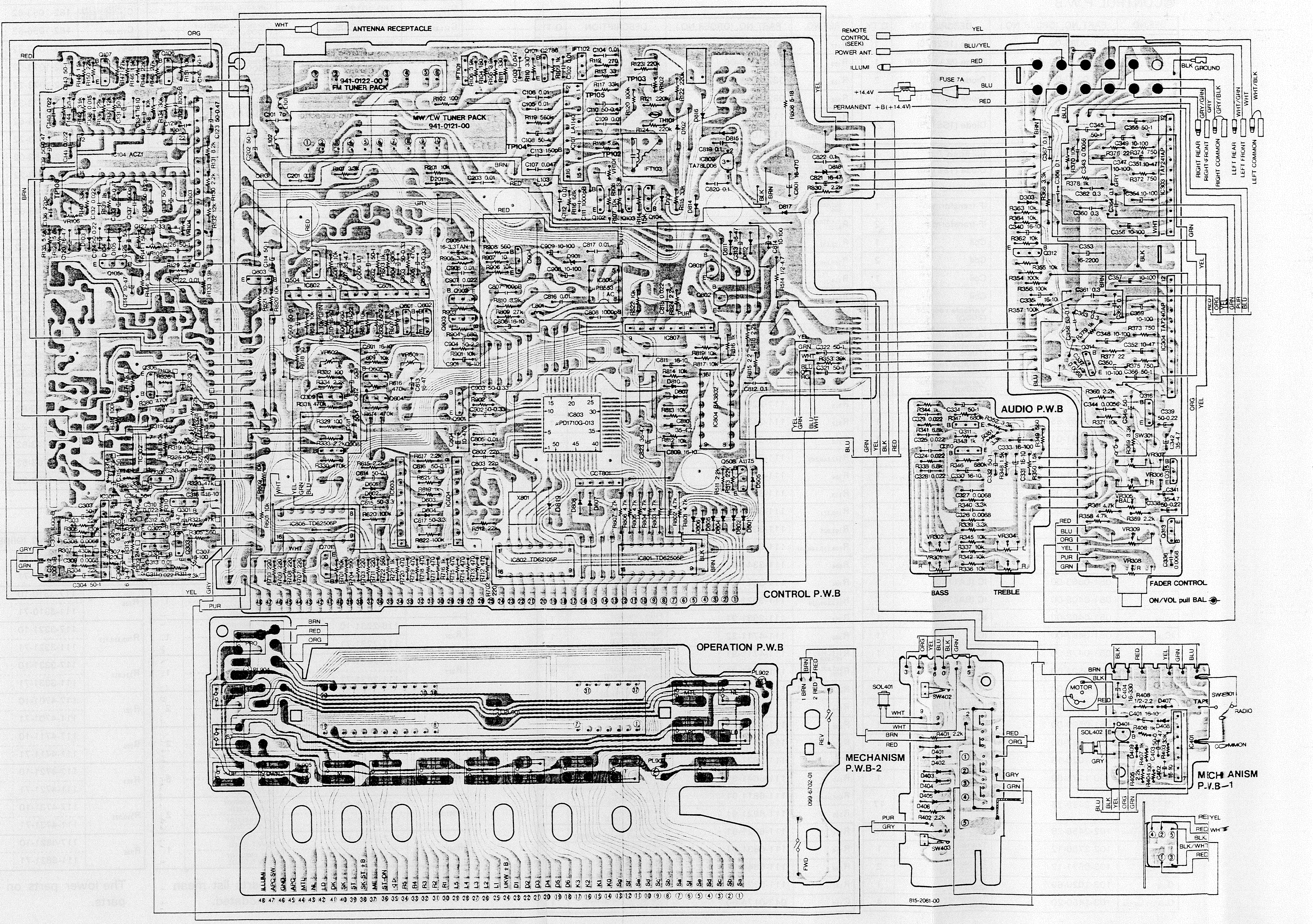

ANTENNA RECEPTACLE
941-0122-00
FM TUNER PACK
MW/LW TUNER PACK
941-0121-00
REMOTE CONTROL (SEEK)
POWER ANT.
ILLUMI
+14.4V
FUSE 7A
PERMANENT +B(+14.4V)
GROUND
RIGHT REAR
RIGHT FRONT
RIGHT COMMON
LEFT REAR
LEFT FRONT
LEFT COMMON
IC803
µPD1710G-013
IC805 TD62506P
IC802 TD62105P
IC801 TD62506P
IC303 TA7240AP
IC304 TA7240AP
AUDIO P.W.B
BASS
TREBLE
FADER CONTROL
ON/VOL pull BAL
CONTROL P.W.B
OPERATION P.W.B
MECHANISM P.W.B-2
MECHANISM P.W.B-1
MOTOR
SOL401
SOL402
SW402
SW403
TAPE
RADIO
COMMON
REV
FWD
099-6702-01
815-2061-00

■PARTS LIST:

◎Electrical section

◎CONTROL P.W.B

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D_{302}	001-0095-00	Diode (1S2076)	1
D_{818}	001-0170-00	Diode (MA1056M)	1
$D_{811,812}$	001-0213-03	Diode (HZ9B1)	2
D_{901}	001-0286-00	Diode (HZ11A1)	1
$D_{101\sim105,201,301,501\sim505,601\sim604,801\sim810,814,815,817}$	001-0330-00	Diode (1SS119)	29
D_{819}	001-0330-00	Diode (1SS119) for E950	1
$D_{813,816}$	001-0361-00	Diode (1SS106)	2
TH_{101}	002-0184-00	Thermistor (30kΩ)	1
IFT_{103}	005-0844-01	IF-transformer	1
$IFT_{101,102}$	005-0865-01	IF-transformer	2
L_{102}	010-0930-00	Coil	1
$L_{103,801}$	010-1180-00	Coil	2
L_{101}	010-1708-00	Coil	1
L_{104}	010-1853-01	Coil	1
$VR_{601,602}$	012-3708-00	Variable resistor (200Ω)	2
$VR_{103,105,201}$	012-3808-05	Variable resistor (4.7kΩ)	3
$VR_{104,106}$	012-3808-06	Variable resistor (10kΩ)	2
VR_{101}	012-3808-68	Variable resistor (33kΩ)	1
VR_{102}	012-3808-71	Variable resistor (220kΩ)	1
CCT_{801}	050-0077-00	Component circuit (47kΩx4)	1
IC_{302}	051-0267-55	IC (μPD4066BG)	1
IC_{806}	051-0281-01	IC (μPB553AC)	1
IC_{809}	051-0296-00	IC (TA78L006P)	1
IC_{301}	051-0301-02	IC (M51522AL)	1
IC_{801}	051-0305-00	IC (TD62505P)	1
IC_{802}	051-0306-00	IC (TD62105P)	1
IC_{805}	051-0329-00	IC (TD62506P)	1
$IC_{603,604}$	051-0357-00	IC (BA6104)	2
IC_{601}	051-0362-01	IC (BA338)	1
IC_{101}	051-0363-00	IC (LA1140)	1
IC_{602}	051-0409-00	IC (BA634)	1
IC_{104}	051-0463-00	IC	1
IC_{103}	051-0467-00	IC	1
IC_{807}	051-0478-00	IC (NJD6506)	1
IC_{201}	051-0501-00	IC (LA3365)	1
IC_{102}	051-0502-00	IC (STK2200)	1
IC_{804}	051-0504-00	IC (BA3802)	1
IC_{803}	051-0509-00	IC (μPD1710G013)	1
X_{801}	061-1037-00	Crystal (4.5MHz)	1
Q_{804}	100-1020-15	Transistor (2SA1020-O)	1
Q_{508}	100-1175-69	Transistor (2SA1175HF)	1
$Q_{102\sim104,501,502,503,504,505,506,507,601,602,603,701,803,805,901}$	102-2458-25	Transistor (2SC2458Y)	17
$Q_{105,301\sim304,307,308,309,604,605,902,903}$	102-2458-28	Transistor (2SC2458GR)	12
Q_{101}	102-2786-12	Transistor (2SC2786L)	1
$Q_{801,802}$	103-0571-12	Transistor (2SD571L)	2
Q_{904}	103-1020-69	Transistor (2SD1020)	1
$Q_{106,107,305,306}$	103-1450-20	Transistor (2SD1450T)	4

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R_{117}	032-0059-06	Film resistor (¼Ws33kΩ)	1
R_{120}	032-0059-08	Film resistor (¼Ws100kΩ)	1
R_{118}	032-0059-49	Film resistor (¼Ws5.6kΩ)	1
R_{808}	032-0072-00	Film resistor (5W18Ω)	1
$R_{618,907}$	111-1001-91	Film resistor (¼Wss10Ω)	2
$R_{102,329,332}$	111-1011-91	Film resistor (¼Wss100Ω)	3
$R_{109,139,508,603,619,621,716,721,816,827,902,903}$	111-1021-91	Film resistor (¼Wss1kΩ)	12
$R_{107,125,138,144,151,201,367,504,507,510,601,602,607,608,609,610,611,612,613,701,811,812,813,814,817,819,820,821,822,823,829,901,906}$	111-1031-91	Film resistor (¼Wss10kΩ)	33
$R_{316,318,503,620,622}$	111-1041-91	Film resistor (¼Wss100kΩ)	5
$R_{132,137}$	111-1231-91	Film resistor (¼Wss12kΩ)	2
$R_{145,146}$	111-1521-91	Film resistor (¼Wss1.5kΩ)	2
R_{114}	111-1531-91	Film resistor (¼Wss15kΩ) for E950	1
R_{104}	111-1811-91	Film resistor (¼Wss180Ω)	1
$R_{702,703,705\sim710,711}$	111-2211-91	Film resistor (¼Wss220Ω)	9
$R_{130,333,334,511,615,617,818,824,830}$	111-2221-91	Film resistor (¼Wss2.2kΩ)	9
R_{328}	111-2231-72	Film resistor (⅙W22kΩ)	1
$R_{136,149,150,303,304,501,512,513}$	111-2231-91	Film resistor (¼Wss22kΩ)	8
$R_{121,122,123,124}$	111-2241-91	Film resistor (¼Wss220kΩ)	4
R_{815}	111-2291-91	Film resistor (¼Wss2.2Ω)	1
R_{312}	111-2431-72	Film resistor (⅙W24kΩ)	1
R_{112}	111-2711-91	Film resistor (¼Wss270Ω)	1
$R_{147,148,809}$	111-2731-91	Film resistor (¼Wss27kΩ)	3
R_{134}	111-3031-71	Film resistor (⅙W30kΩ)	1
R_{113}	111-3301-91	Film resistor (¼Wss33Ω)	1
$R_{110,111}$	111-3311-91	Film resistor (¼Wss330Ω)	2
$R_{101,905}$	111-3321-91	Film resistor (¼Wss3.3kΩ)	2
$R_{108,115,140,502}$	111-3331-91	Film resistor (¼Wss33kΩ)	4
R_{604}	111-3341-91	Film resistor (¼Wss330kΩ)	1
R_{704}	111-3911-91	Film resistor (¼Wss390Ω)	1
$R_{105,106,133,142,143,509,810}$	111-3921-91	Film resistor (¼Wss3.9kΩ)	7
R_{353}	111-3931-91	Film resistor (¼Wss39kΩ)	1
R_{380}	111-4711-22	Film resistor (¼Ws470Ω)	1
$R_{712\sim715,717\sim720,825,826}$	111-4711-91	Film resistor (¼Wss470Ω)	10
$R_{505,801\sim807,828}$	111-4721-91	Film resistor (¼Wss4.7kΩ)	9
$R_{330,331,605,614,616}$	111-4741-91	Film resistor (¼Wss470kΩ)	5
R_{514}	111-4791-81	Film resistor (½Ws4.7Ω)	1
R_{202}	111-5121-72	Film resistor (⅙W5.1kΩ)	1
$R_{305,722,908}$	111-5611-91	Film resistor (¼Wss560Ω)	3
$R_{128,135}$	111-5621-91	Film resistor (¼Wss5.6kΩ)	2
R_{119}	111-5641-91	Film resistor (¼Wss560kΩ)	1
$R_{606,904}$	111-6811-91	Film resistor (¼Wss680Ω)	2
R_{515}	111-6821-91	Film resistor (¼Wss6.8kΩ)	1
R_{114}	111-6821-91	Film resistor (¼Wss6.8kΩ) for E951	1
R_{116}	111-6831-91	Film resistor (¼Wss68kΩ)	1
R_{506}	111-6841-91	Film resistor (¼Wss680kΩ)	1
R_{131}	111-8221-91	Film resistor (¼Wss8.2kΩ)	1
C_{117}	043-0174-00	Ceramic capacitor (2200pF)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
C_{136}	043-0200-00	Ceramic capacitor (220pF)	1
C_{807}	160-1012-05	Ceramic capacitor (100pFB)	1
$C_{111,301,302,808}$	160-1022-05	Ceramic capacitor (1000pFB)	4
C_{113}	160-1512-05	Ceramic capacitor (150pFB)	1
C_{137}	160-1522-05	Ceramic capacitor (1500pFB)	1
C_{128}	160-8212-05	Ceramic capacitor (820pFB)	1
$C_{102,104,105,106,109,112,122,203,312,313,805,816,817,906}$	171-1033-06	Ceramic capacitor (25V0.01μF)	14
C_{138}	171-1533-06	Ceramic capacitor (25V0.015μF)	1
C_{815}	171-2223-06	Ceramic capacitor (25V0.0022μF)	1
$C_{132,140,141,310,311,818,907}$	171-2233-06	Ceramic capacitor (25V0.022μF)	7
$C_{103,107}$	171-4733-06	Ceramic capacitor (25V0.047μF)	2
$C_{308,309}$	171-6823-06	Ceramic capacitor (25V0.0068μF)	2
C_{129}	174-1000-13	Ceramic capacitor (10pFCH)	1
$C_{802,803}$	174-2200-13	Ceramic capacitor (22pFCH)	2
C_{115}	174-3610-37	Ceramic capacitor (360pFRH)	1
C_{101}	174-7090-13	Ceramic capacitor (7pFCH)	1
$C_{606,812,819,820,822}$	172-1042-20	Polyester capacitor (63V0.1μF)	5
C_{201}	173-1042-10	Polyester capacitor (50V0.1μF)	1
C_{905}	042-0201-00	Electrolytic capacitor (16V3.3μF TAN)	1
C_{204}	042-0249-00	Electrolytic capacitor (16V0.22μF TAN)	1
$C_{303,304}$	179-1053-62	Electrolytic capacitor (50V1μF)	2
C_{179}	179-2273-22	Electrolytic capacitor (10V220μF)	1
C_{323}	179-2273-33	Electrolytic capacitor (16V220μF)	1
C_{110}	179-4743-62	Electrolytic capacitor (50V0.47μF)	1
C_{108}	179-4753-62	Electrolytic capacitor (50V4.7μF)	1
$C_{118,142,210,317}$	179-4763-22	Electrolytic capacitor (10V47μF)	4
$C_{502,804}$	179-4773-23	Electrolytic capacitor (10V470μF)	2
C_{801}	179-4773-33	Electrolytic capacitor (16V470μF)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
C_{134}	181-1063-32	Electrolytic capacitor (16V10μF)	1
$C_{116,125,131,143,144,145,205,208,314,315,318,319}$	182-1053-62	Electrolytic capacitor (50V1μF)	12
$C_{126,130}$	182-1056-62	Electrolytic capacitor (50V1μF NP)	2
C_{316}	182-1063-32	Electrolytic capacitor (16V10μF)	1
C_{206}	182-1073-02	Electrolytic capacitor (4V100μF)	1
$C_{814,908,909}$	182-1073-22	Electrolytic capacitor (10V100μF)	3
C_{307}	182-1073-32	Electrolytic capacitor (16V100μF)	1
$C_{124,135}$	182-2246-62	Electrolytic capacitor (50V0.22μF NP)	2
C_{320}	182-2263-22	Electrolytic capacitor (10V22μF)	1
C_{207}	182-3363-02	Electrolytic capacitor (4V33μF)	1
C_{127}	182-3363-22	Electrolytic capacitor (10V33μF)	1
C_{139}	182-4743-62	Electrolytic capacitor (50V0.47μF)	1
C_{133}	182-4746-62	Electrolytic capacitor (50V0.47μF NP)	1
$C_{121,209}$	182-4753-52	Electrolytic capacitor (35V4.7μF)	2
C_{120}	182-4756-32	Electrolytic capacitor (16V4.7μF NP)	1
$C_{305,306}$	182-4763-12	Electrolytic capacitor (6.3V47μF)	2
C_{613}	182-4763-32	Electrolytic capacitor (16V47μF)	1
$C_{609,614,616}$	183-1043-62	Electrolytic capacitor (50V0.1μF)	3
$C_{114,202,321,322,602,611,612}$	183-1053-62	Electrolytic capacitor (50V1μF)	7
$C_{503,601,610,806,809,811,901}$	183-1063-32	Electrolytic capacitor (16V10μF)	7
$C_{608,904}$	183-2253-62	Electrolytic capacitor (50V2.2μF)	2
C_{605}	183-2263-32	Electrolytic capacitor (16V22μF)	1
$C_{603,604,902,903}$	183-3343-62	Electrolytic capacitor (50V0.33μF)	4
$C_{615,617}$	183-3353-62	Electrolytic capacitor (50V3.3μF)	2
C_{501}	183-3363-22	Electrolytic capacitor (10V33μF)	1
C_{123}	183-4743-62	Electrolytic capacitor (50V0.47μF)	1
$C_{607,810,823}$	183-4753-52	Electrolytic capacitor (35V4.7μF)	3
$C_{813,821}$	183-4763-32	Electrolytic capacitor (16V47μF)	2

◎CONTROL P.W.B (CHIP RESISTOR)

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R_{204}	116-1021-10 111-1021-71	Chip resistor (⅛W1kΩ) Film resistor (⅙W1kΩ)	1
R_{322}	116-1031-10 111-1031-71	Chip resistor (⅛W10kΩ) Film resistor (⅙W10kΩ)	1
R_{327}	116-2231-10 111-2231-71	Chip resistor (⅛W22kΩ) Film resistor (⅙W22kΩ)	1
R_{313}	116-2431-10 111-2431-71	Chip resistor (⅛W24kΩ) Film resistor (⅙W24kΩ)	1
$R_{129,309}$	116-2721-10 111-2721-71	Chip resistor (⅛W2.7kΩ) Film resistor (⅙W2.7kΩ)	2
$R_{306,307}$	116-4341-10 111-4341-71	Chip resistor (⅛W430kΩ) Film resistor (⅙W430kΩ)	2
$R_{317,319,324,325,326}$	117-1031-10 111-1031-71	Chip resistor (1/16W10kΩ) Film resistor (⅙W10kΩ)	5
$R_{301,302}$	117-1211-10 111-1211-71	Chip resistor (1/16W120Ω) Film resistor (⅙W120Ω)	2
R_{141}	117-1521-10 111-1521-71	Chip resistor (1/16W1.5kΩ) Film resistor (⅙W1.5kΩ)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
R_{308}	117-2721-10 111-2721-71	Chip resistor (1/16W2.7kΩ) Film resistor (⅙W2.7kΩ)	1
R_{126}	117-3310-10 111-3310-71	Chip resistor (1/16W330Ω) Film resistor (⅙W330Ω)	1
$R_{203,310,311}$	117-3321-10 111-3321-71	Chip resistor (1/16W3.3kΩ) Film resistor (⅙W3.3kΩ)	3
$R_{314,315}$	117-3331-10 111-3331-71	Chip resistor (1/16W33kΩ) Film resistor (⅙W33kΩ)	2
R_{127}	117-4701-10 111-4701-71	Chip resistor (1/16W47Ω) Film resistor (⅙W47Ω)	1
R_{205}	117-4711-10 111-4711-71	Chip resistor (1/16W470Ω) Film resistor (⅙W470Ω)	1
R_{323}	117-4721-10 111-4721-71	Chip resistor (1/16W4.7kΩ) Film resistor (⅙W4.7kΩ)	1
$R_{320,321}$	117-4731-10 111-4731-71	Chip resistor (1/16W47kΩ) Film resistor (⅙W47kΩ)	2
R_{335}	117-6821-10 111-6821-71	Chip resistor (1/16W6.8kΩ) Film resistor (⅙W6.8kΩ)	1

Note) The upper parts on the parts list mean chip parts to be accommodated. The lower parts on the list mean equivalent parts.

◎AUDIO P.W.B

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
D_{303}	001-0276-01	Diode (S5277B)	1
IC_{303}	051-0444-01	IC (TA7241AP)	1
IC_{304}	051-0444-02	IC (TA7240AP)	1
$Q^{312,313,314,315}_{316}$	102-2458-25	Transistor (2SC2458Y)	5
$Q_{310,311}$	102-2458-28	Transistor (2SC2458GR)	2
Q_{317}	103-0655-05	Transistor (2SD655E)	1
R_{379}	111-1021-22	Film resistor (¼Ws1kΩ)	1
$R_{343,344,378}$	111-1021-91	Film resistor (¼Wss1kΩ)	3
R_{371}	111-1031-22	Film resistor (¼Ws10kΩ)	1
$R^{336,337,342,345}_{355,362,363,364,370}$	111-1031-91	Film resistor (¼Wss10kΩ)	9
$R_{354,356,357}$	111-1041-91	Film resistor (¼Wss100kΩ)	3
$R_{348,350,365}$	111-1521-91	Film resistor (¼Wss1.5kΩ)	3
$R_{376,377}$	111-2201-91	Film resistor (¼Wss22Ω)	2
R_{360}	111-2221-22	Film resistor (¼Ws2.2kΩ)	1
R_{359}	111-2221-91	Film resistor (¼Wss2.2kΩ)	1
$R_{351,352}$	111-3321-22	Film resistor (¼Ws3.3kΩ)	2
$R_{339,340,368,369}$	111-3321-91	Film resistor (¼Wss3.3kΩ)	4
$R_{358,361,366}$	111-4721-91	Film resistor (¼Wss4.7kΩ)	3
R_{349}	111-5611-91	Film resistor (¼Wss560Ω)	1
R_{338}	111-6821-22	Film resistor (¼Ws6.8kΩ)	1
R_{341}	111-6821-91	Film resistor (¼Wss6.8kΩ)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
$R_{346,347}$	111-6841-91	Film resistor (¼Wss680kΩ)	2
$R_{372,373,374,375}$	111-7511-71	Film resistor (⅛W750Ω)	4
$C_{360,361,362,363}$	043-0122-00	Ceramic capacitor (12V0.3μF)	4
C_{364}	043-0165-00	Ceramic capacitor (12V0.1μF)	1
C_{365}	043-0165-01	Ceramic capacitor (12V0.1μF)	1
$C_{343,344}$	160-5622-05	Ceramic capacitor (50V0.0056μFB)	2
$C_{324,325,328,329}$	171-2233-06	Ceramic capacitor (25V0.022μF)	4
$C_{326,327,336,337}$	171-6823-06	Ceramic capacitor (25V0.0068μF)	4
C_{358}	172-1042-20	Polyester capacitor (63V0.1μF)	1
$C_{366,367}$	173-1042-10	Polyester capacitor (50V0.1μF)	2
C_{353}	042-0246-01	Electrolytic capacitor (16V2200μF)	1
$C_{335,340}$	179-1063-32	Electrolytic capacitor (16V10μF)	2
$C^{347,348,349,350}_{354,356,357,359}$	179-1073-22	Electrolytic capacitor (10V100μF)	8
$C_{351,352}$	179-4763-22	Electrolytic capacitor (10V47μF)	2
$C^{332,334,345,346}_{355,366}$	182-1053-62	Electrolytic capacitor (50V1μF)	6
$C_{330,331}$	182-1063-32	Electrolytic capacitor (16V10μF)	2
C_{333}	182-1073-32	Electrolytic capacitor (16V100μF)	1
$C_{338,339}$	182-2243-62	Electrolytic capacitor (50V0.22μF)	2
C_{367}	182-2263-32	Electrolytic capacitor (16V22μF)	1
$C_{341,342}$	182-4753-52	Electrolytic capacitor (35V4.7μF)	2

◎ MECHANISM P.W.B

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
$D_{401\sim409}$	001-0112-00	Diode (1S1588)	9
IC_{401}	051-0403-01	IC (TD6308AP)	1
Q_{401}	102-1815-25	Transistor (2SC1815Y)	1
R_{404}	111-1011-22	Film resistor (¼Ws100Ω)	1
$R_{406,407}$	111-1021-22	Film resistor (¼Ws1kΩ)	2
R_{405}	111-2221-22	Film resistor (¼Ws2.2kΩ)	1

REF.NO.	PART NO. (ORDER NO.)	DESCRIPTION	Q'TY
$R_{401,402}$	111-2221-71	Film resistor (⅙W2.2kΩ)	2
R_{408}	111-2291-82	Film resistor (½Ws2.2Ω)	1
R_{403}	111-3331-22	Film resistor (¼Ws33kΩ)	1
C_{404}	179-3373-33	Electrolytic capacitor (16V330μF)	1
$C_{401,402}$	182-1063-32	Electrolytic capacitor (16V10μF)	2
C_{403}	182-4743-62	Electrolytic capacitor (50V0.47μF)	1

■CHIP PARTS:

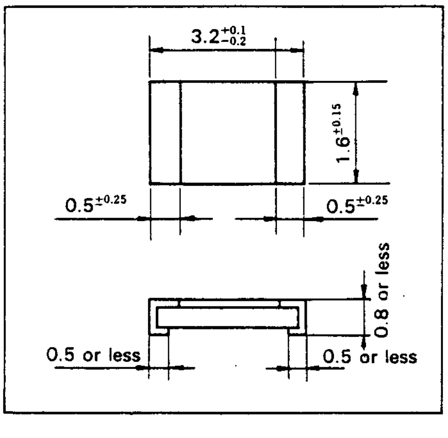
This set partially uses chip parts. The chip parts is directly soldered to a P.W.B pattern face instead of conventional lead type resistors. Normally, data such as capacitance is not indicated on the body of chip parts; however, such data is printed on the pattern face for reference.

When replacing chip parts, equivalent parts can be also used instead of chip parts.

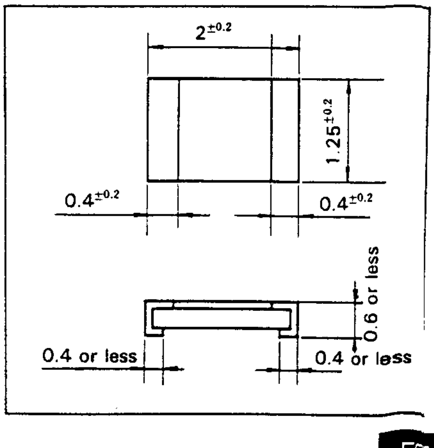
When soldering chip parts, use a 40W or less solder iron whose edge is small.

When soldering equivalent parts, be sure that they do not contact the case, mechanism, or so. Moreover, if the pattern is pressed remarkably by back side soldered parts, there is a possibility that the pattern is broken. Therefore, adhere the parts with proper bonding agent.

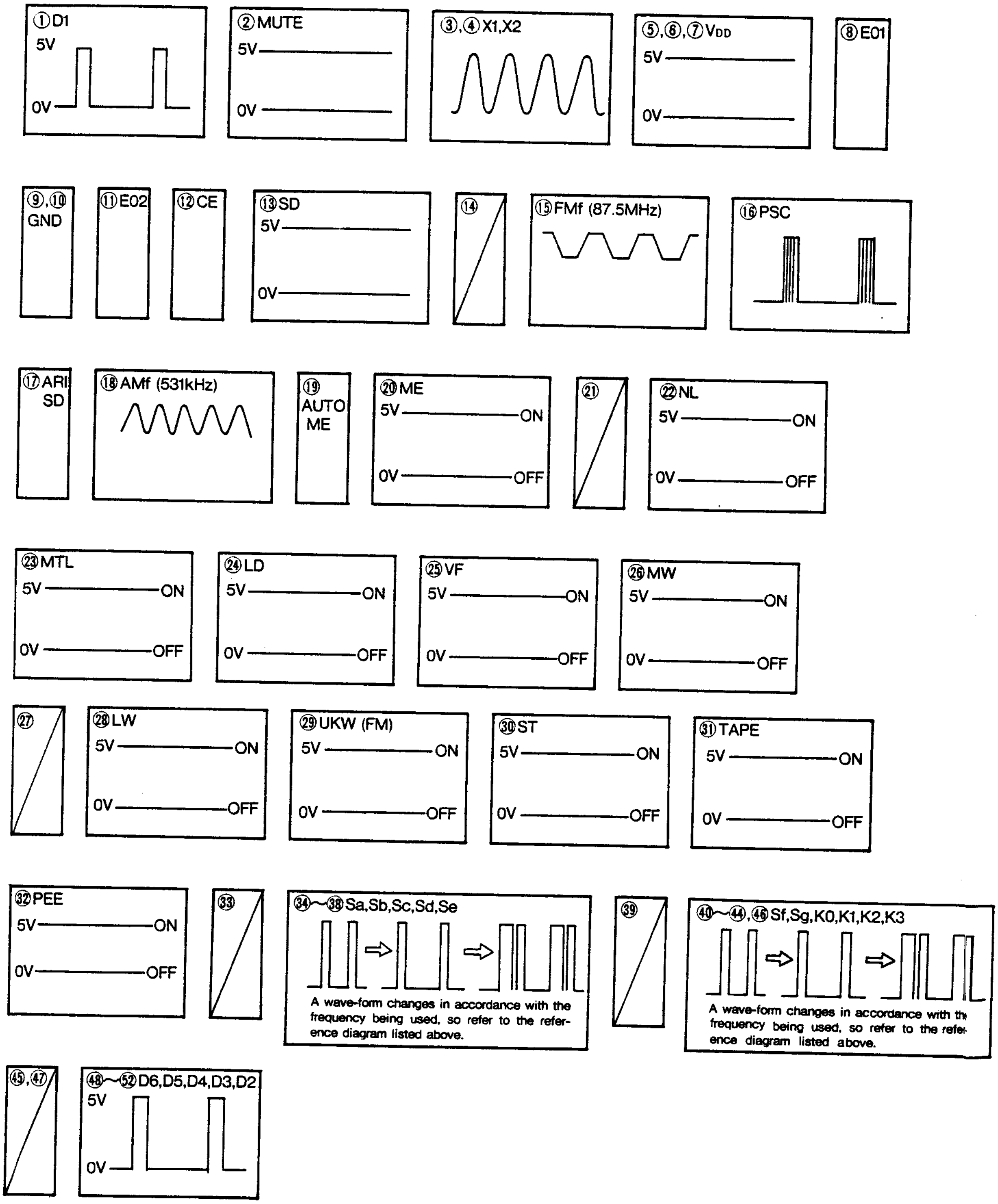
◎Resistor and jumper (116-)



◎Resistor and jumper (117-)



WAVE-FORM OF CONTROLLER


①D1
5V
0V
②MUTE
5V
0V
③,④X1,X2
⑤,⑥,⑦VDD
5V
0V
⑧E01
⑨,⑩ GND
⑪E02
⑫CE
⑬SD
5V
0V
⑭
⑮FMf (87.5MHz)
⑯PSC
⑰ARI SD
⑱AMf (531kHz)
⑲ AUTO ME
⑳ME
5V ON
0V OFF
㉑
㉒NL
5V ON
0V OFF
㉓MTL
5V ON
0V OFF
㉔LD
5V ON
0V OFF
㉕VF
5V ON
0V OFF
㉖MW
5V ON
0V OFF
㉗
㉘LW
5V ON
0V OFF
㉙UKW (FM)
5V ON
0V OFF
㉚ST
5V ON
0V OFF
㉛TAPE
5V ON
0V OFF
㉜PEE
5V ON
0V OFF
㉝
㉞~㊳Sa,Sb,Sc,Sd,Se
㊴
㊵~㊹,㊻Sf,Sg,K0,K1,K2,K3
㊺,㊼
㊽~(52)D6,D5,D4,D3,D2
5V
0V

A wave-form changes in accordance with the frequency being used, so refer to the reference diagram listed above.

A wave-form changes in accordance with the frequency being used, so refer to the reference diagram listed above.